THE MAGAZINE OF

Standards

the story of modular . . . page 229

AUGUST, 1959

THE MAGAZINE OF

Standards

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

VOL. 30 AUGUST, 1959 No. 8

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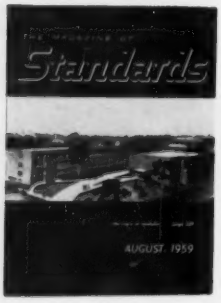

Our Cover: This architect's drawing shows a modular building designed by the architectural and engineering firm of Magney, Tusler and Setter of Minneapolis. The building is a secondary laboratory school for the College of Education, University of Minnesota.

ASA

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Sectional Committee A62 on Modular Coordination of Building Materials and Equipment has been reorganized and subcommittees are being activated to develop modular standards for a wide variety of building materials and equipment. The committee's work has the backing of the recently organized Modular Building Standards Association, and is tied in closely with international work on modular standards. The history of Committee A62, its plans for the future, and the international program are described.

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• ONE OF ASA'S COMPANY members has found standards so important that it has installed a standards exhibit in the entrance to its engineering building (see page 236). The exhibit features pipe flanges and fittings.

On July 18, 1894, the first action was taken to agree upon nationally coordinated standards for flanges and fittings. This came to light in a report found recently by W. P. Kliment among the papers of A. M. Houser, for years engineer of standardization, Crane Company. Mr Houser was a member of the committee that developed the first American Standard—the American Standard for Pipe Threads, B2-1919. He also represented the Manufacturers Standardization Society of the Valve and Fittings Industry on ASA's Standards Council and was one of the original members of ASA's Mechanical Standards Board.

The 1894 meeting was held in the offices of the American Society of Mechanical Engineers, then at 12 West 31 Street, New York. It brought together members of two committees appointed several years before to investigate the possibility of adopting a standard for cast-iron flanges. One was a committee of the ASME; the other of the Association of Master Steam Fitters. Representatives of leading manufacturers were also present.

As reported in the record, it was hoped that "it might be possible to devise some standard which would be sufficiently broad to induce the various manufacturers to adopt, in preference to that which had previously been individually used by them."

E. P. Bates, chairman of the steamfitters' committee, opened the meeting. Twenty-two representatives of 20 companies, some of whom were members of the two committees, were present. Carleton W. Nason, chairman of the ASME committee, was elected chairman.

The result, after considerable discussion, was a list of standard flanges, adopted by the meeting and recommended to manufacturers, effective January 1, 1895.

However long its history, work on standards never is completed. Today, Sectional Committee B16 (W. P. Kliment, Crane Company, chairman) has inherited the program started in 1894. Twelve sub-committees are actively engaged in solving current standards problems.

This Month's Standards Personality

HERBERT W. STUART, director of quality control, United States Pipe and Foundry Company, won well deserved recognition at the recent annual meeting of the American Society for Testing Materials. Mr Stuart received an Award of Merit from ASTM for his long and effective service on ASTM technical committees and as vice-chairman and finance committee chairman of ASTM's Philadelphia District.

Mr Stuart first became associated with ASTM in 1935. He has been secretary of ASTM Committee A-3 on Cast Iron from 1949 to 1952 and chairman from 1954 to 1956. He has also served on Committee E-11 on Quality Control of Materials since 1957, and represents ASTM Committee A-3 on the Advisory Committee on Corrosion.

Known by all with whom he works as a man who gets things done and who sticks with any job he undertakes, Mr Stuart was elected vice-chairman of ASA Sectional Committee A21 on cast-iron pipe when it was reorganized in 1958. Proud of the committee's 28-year record, he points out that it was reorganized by the original chairman, Thomas A. Wiggin. From the time it started work in 1926, the committee had supervised research that led to development of the present series of A21 American Standards. Now the committee is actively engaged in extending the development of standards beyond those already completed.

Mr Stuart is a member of the American Foundrymen's Society, which he represented for some time on Committee A21, the American Water Works Association, American Gas Association, American Society for Quality Control, American Society for Metals, and the Standards Engineers Society. He now represents the Cast Iron Pipe Research Association on Committee A21, having been actively engaged in the technical work of the association for some time.

Mr Stuart's interest in standards has an international as well as national flavor. He helped to organize the American Group that is actively participating in the work of the International Organization for Standardization Technical Committee 25 on Cast Iron, and he led the U.S. delegation that attended the meeting of TC 25 at London in 1955, the first U.S. delegation to attend a meeting of this international committee.

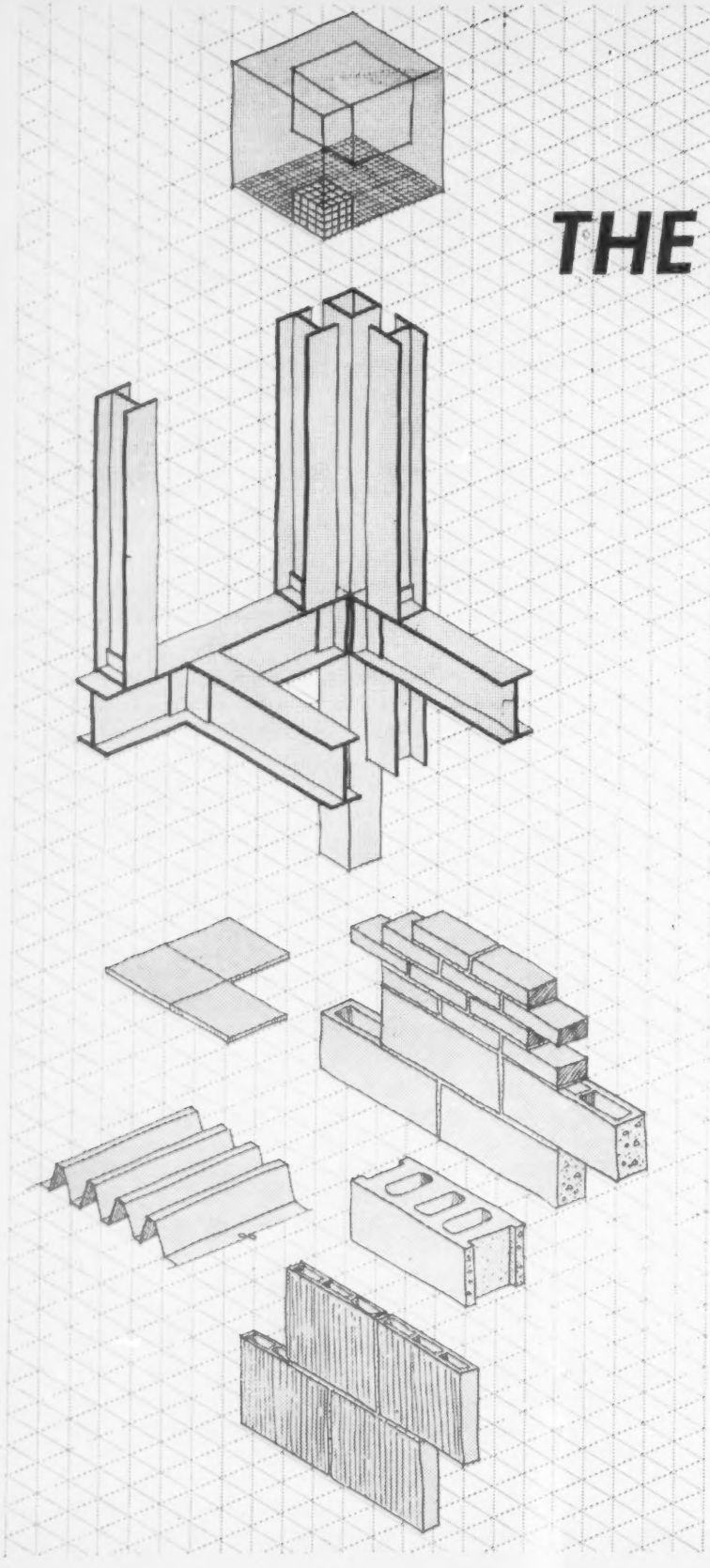
Desiring to make use of standardization as a management tool, Mr Stuart attended one of the first of Dr John Gaillard's seminars. "We developed our quality control program on the teachings and friendly advice of this outstanding standards personality," he says.

Mr and Mrs Stuart enjoy their hobbies together. On their small farm near Mt Holly, N. J., they find please in country living, in the company of their friends, and with their horses and their dogs. "We try to apply Quality Control in the raising of hay, pasture, and Arabian horses," Mr Stuart says. "We selected the Arabian horse as the oldest recognized standard of perfection in beauty, conformation, quality, and manners. Fortunately we have gathered a few blue ribbons as evidence that our breeding program is well founded."

THE STORY OF

by F. C. FROST

MR FROST is secretary of the Construction Standards Board and the Materials and Testing Standards Board of the American Standards Association. Until recently he served as acting secretary of Project A62.



Courtesy: ARCHITECTURAL FORUM

The 4-in. cube, specified as the basic module for building in American Standard A62.1-1957, approved by the American Standards Association, is shown in the grid structure at the top (left). On this three-dimensional lattice (background), all building dimensions—height, width, depth, thickness of wall, floor, and other components—may be coordinated. When all building products are made in whole multiples of the basic module with allowance for jointing—as shown in the steel section, brick, block, and other components (left)—all parts fit without wastage. Thus design, manufacture, and construction may be coordinated to industrial mass production, with fewer part sizes, lower costs, great labor saving on the site.

MODULAR

IT WILL BE GOOD NEWS to the many groups and individuals interested in modular coordination of building materials and equipment that reorganization and reactivation of ASA Project A62 is under way. This does not mean that there will be 25 new American Standards on modular next week, but it does mean that plans are progressing to resume the technical program of standards development after an extended period of inactivity.

Project A62 has already completed one of its primary purposes — to develop a practical basis for the coordination of dimensional standards for building materials and equipment. This is available as American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1-1957. The goal of the project now is to develop coordinated standard sizes for building parts, details, and layout of buildings to permit building parts to fit together without alteration during erection and to correlate the dimensions of the building with the coordinated sizes of building parts and assembly details. Those closely concerned with the project work believe that it should be possible to apply this method to any building material whose physical properties permit predetermination of size.

It will be recalled that the modular project was initiated late in 1938 under the sponsorship of the American Institute of Architects and the Producers' Council. By early 1940, the extensive committee organization necessary for such a study had been completed and work was well under way. Full time staff support of the activity had been provided in the person of Myron W. Adams, who also served as secretary of the sectional committee. These services were financed by various grants until 1943, when the Albert Farwell Bemis Charity Trust provided a substantial fund. This, with other funds, permitted five years of intensive operation.

With this assistance, the work on the basic standards was vigorously pursued. In September 1945, the American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment (now A62.1-1957) was approved. This standard established the 4-in. module as the basis for all future coordination of dimensions of building materials and equipment. The American Standard Basis for the Coordination of Masonry, A62.2-1945, applies the 4-in. module, outlining methods for coordinating masonry units with building units made of other materials. The first standard to apply these methods to actual modular sizes for a product was approved in 1946. This was the American Standard Sizes of Clay and Concrete Modular Masonry Units, A62.3-1946. This was followed in July 1947 by the American Standard Sizes of Clay Flue Linings, A62.4-1947.

Study committees had been organized to carry through this same procedure for doors and windows, ceilings, kitchen and laundry equipment, structural wood and steel, glass products, bathroom equipment, stonework, and metal products. Although a number of these study committees remained active and continued to develop draft standards, no further standards were brought before ASA for approval.

The principal difficulty, of course, was lack of funds with which to maintain the technical secretariat. The members of the study committees were representatives of the groups concerned with production and use of the building equipment and materials under consideration. In their work they needed the help of a technical man well versed in the principles of modular coordination to translate their decisions into terms of the 4-in. modular grid.

For some years, the Modular Service Association, organized with the Bemis funds, not only provided the technical assistance and administration that resulted in development of the four American Standards mentioned above, but also published the famous *A62 Guide* and a periodical, *Grid Lines*. The *Guide* showed in detail how the 4-in. grid system works and how to apply it. *Grid Lines* gave up-to-date information on how the method was being used, who were using it, and their experiences and problems with it. By the end of 1946, however, funds were running out, nearly $200,000 having been expended. Government assistance extended the life of the MSA briefly but by 1948 it was necessary to discontinue all MSA activity for A62.

Various means of financing full-scale technical service were considered over the next two years, but prospects were limited. The A62 co-sponsors, the American

Architect's drawing of Trane Company's modular laboratory building, designed by Magney, Tusler & Setter.

Institute of Architects and the Producers' Council, therefore, took upon themselves the responsibility for continuation of the modular project. Upon the recommendation of their Joint AIA-PC Committee, they established the AIA Modular Office in 1950. The name of William Demarest is well known for his accomplishments in that office. Mr Demarest served as secretary of the sectional committee and devoted a great deal of time to working with architects, architectural schools, and others in promoting the concept and application of the modular principle.

The success of this endeavor was such that by the time of his resignation in 1957, modular had become much more widely accepted. In fact, a demand now had been created for modular materials and for the component standards necessary to the effective application of the method and to full realization of modular benefits.

In reviewing the situation in January 1957, the sponsors recognized the urgent need for resumption of the technical program and took steps toward reactivation of the sectional committee. The National Association of Home Builders and the Associated General Contractors of America had previously joined the American Institute of Architects and the Producers' Council as co-sponsors of the project. The four sponsors expressed their desire that the committee and its study committees proceed with whatever work they could themselves handle without waiting for technical staff assistance. They also appointed C. E. Silling[1] chairman of the sectional committee, Edwin Green having asked for well earned relief after serving as chairman since February 1946. Mr Green is an architect with the firm of Lawrie and Green, Harrisburg, Pa. Max Foley, also an architect, had been the first chairman of the committee.

The sponsors requested that plans be formulated for any necessary further reorganization of the work. At the same time, they undertook to develop means for providing a staff, which over the years had been considered necessary to a project of this scope and which would facilitate renewal of the actual standards activity.

It has taken time to reorganize a project of this size.

As a result of their efforts, the Modular Building Standards Association (see page 234) has now been organized. The association, incorporated as a nonprofit organization, will be responsible for publicizing the idea of the modular method and the use of modular standards as they are produced. Its activities will form a background for developing and promoting the future technical work of Committee A62.

As the first step in reactivating Committee A62, the sponsors reconstituted its executive committee. Mr Silling, chairman of Committee A62 and president of the Modular Building Standards Association, is also chairman of the A62 executive committee. Harry C. Plummer, director of engineering and technology, Structural Clay Products Institute, is vice-chairman. Secretary is Byron Bloomfield, executive director of the Modular Building Standards Association.

Other members of the executive committee are: M. Edwin Green, Lawrie and Green, Harrisburg, Pa. (formerly chairman of A62); James E. Coombs, president of Baker & Coombs, Inc, Morgantown, West Virginia; J. H. Orendorff, technical advisor, Housing & Home Finance Agency, Washington, D.C.; Richard Canavan, director, Construction Department, National Association of Home Builders; Charles J. Nocar, E. F. Hauserman Company, Cleveland, Ohio; and William H. Scheick, Timber Engineering Company, Washington, D.C.

At its meeting March 6, as a means of expediting the development of modular standards, this group adopted a new procedure for Committee A62 and revised the subcommittee (formerly study committee) setup. Under

[1]Mr Silling is a noted architect, head of the firm of C. E. Silling and Associates, Charleston, West Virginia.

the new plan, the executive committee itself will be a working committee. Twelve subcommittees have been authorized, which will report directly to the executive committee. Any standard a subcommittee agrees upon will be reviewed by the executive committee and approved by the sectional committee before being submitted to the American Standards Association. It is planned, however, that after a subcommittee develops modular details and coordinated sizes for a product, its proposal will be submitted to other subcommittees for a check on possible conflicts and overlapping.

The executive committee will have the responsibility for reviewing the proposal to be sure that it provides adequate information and that the modular details are consistent with good building practice and with the requirements of ASA and of American Standard A62.1-1957.

The 12 subcommittees now authorized and others that may be formed may develop a number of different types of standards. These may be coordinated sizes for particular products, or they may be modular details for particular building constructions or for elements of buildings. Or the subcommittees may draft proposed application standards for coordinated sizes for particular products or modular details for particular constructions. One of the problems that make this work difficult is the requirement that modular details and coordinated sizes for one material or piece of equipment must be consistent with the modular details of other products to be used in combination with it.

Under the new procedure, the secretary will be responsible for keeping the work of the committees moving and for furnishing coordinating services. This will include furnishing available modular details and other information of interest to the committee; transmitting proposals of one subcommittee to others whose comments and criticisms may be called for; arranging joint meetings when necessary; and transmitting completed proposals to the executive committee. Before this latter step is taken, it will be the secretary's duty to certify to the chairman of the subcommittee and the chairman of the executive committee that the proposed coordinated sizes and modular details have been reviewed by all the subcommittees having an interest in products used in combination with the material or apparatus under consideration.

The 12 subcommittees authorized by the executive committee at its meeting March 6 are:

Subcommittee 1. Manufactured Masonry Units. Structural clay products, concrete, gypsum, and masonry made of concrete.
Subcommittee 2. Doors. Metal and wood doors, as well as doors of any other materials that may be used in buildings.
Subcommittee 3. Windows. Metal and wood windows and their accessories.
Subcommittee 4. Natural Stones (exterior and interior)
Subcommittee 5. Cast Stone
Subcommittee 6. Structural Wood
Subcommittee 7. Structural Steel
Subcommittee 8. Miscellaneous Metal Products (except doors and windows)
Subcommittee 9. Glass Products
Subcommittee 10. Domestic Kitchen and Laundry Equipment (both appliances and cabinets)
Subcommittee 11. Manufactured Toilet Partitions and Shower Stalls
Subcommittee 12. Integrated Ceilings

This list of committees is very similar to the list of study committees that had formerly worked on modular standards. However, in some cases the work of several committees has now been coordinated under one, as in the case of former Study Committee 3 on Masonry Made of Concrete which now is covered by Subcommittee 1 on Manufactured Masonry Units.

The executive committee is now working on appointment of chairmen who will take the responsibility for seeing that the work of each of the subcommittees is carried forward actively.

Interest in the modular method is by no means confined to the United States. In 1957, the Canadian Standards Association, which had maintained liaison representation on Committee A62 for some years, organized its own modular committee and asked ASA to name a liaison representative from Committee A62 to keep in touch with the Canadian work. Professor S. R. Kent, School of Architecture, University of Toronto, chairman of the Canadian committee, and one of the CSA liaison representatives on Committee A62, has been largely instrumental in bringing about active interest in the modular method in Canada.

Recently, requests for information on the modular method have been received from Japan, Uruguay, and South Africa.

Part of completed modular building shown in drawing on page 230

Courtesy: Magney, Tusler and Setter, Architects & Engineers, Minneapolis

But the most active interest, in which the U. S. also is taking a part, is in Europe. After the war, the housing problem was one of the most pressing of the many pressing problems that had to be solved by all European countries. Large building programs were needed not only to replace the thousands of homes and workplaces destroyed in the war but also to provide for a rapidly increasing population. The expense, of course, was enormous. In order to meet the need and to provide housing at rents that people could pay, ways had to be found to cut costs. By coordinating the sizes of building components and equipment in terms of a fixed basic dimension (a standard module), building operations could be changed, at least to some extent, from a "handcraft" to an industrialized operation. By using the modular method, the work of technicians in planning a building could be simplified, larger quantities of materials and equipment could be produced, transportation and handling could be facilitated, and work at the building site could be faster and simpler. This promised an appreciable decrease in building costs.

A number of European countries made an attempt to put the modular method into effect. Some used a 12.5 cm (approximately 5 in.) module, while some used 10 cm (approximately 4 in.). In the United Kingdom, immediately after the war, a 4-ft unit was developed.

As the Western nations drew closer together after the war, it became obvious to the European countries that only with greater exchange of information and more cooperative effort could their joint economies be strengthened. With the financial backing of the United States, the Organization for European Economic Cooperation and its European Productivity Agency were organized as a means of bringing the European countries together to find ways of working to this end. Member countries of OEEC are Austria, Belgium, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, and the United Kingdom. The United States and Canada, although not members of the Organization, participate in its work, and Yugoslavia is represented by an observer.

Modular coordination was selected by EPA as one of the projects for accomplishing the aims of its members "to increase their production, develop and modernize their industrial and agricultural equipment, expand their commerce, reduce progressively barriers to trade among themselves." Of the OEEC member countries, 11 are cooperating in the modular coordination project, EPA Project 174: Austria, Belgium, Denmark, France, Germany, Greece, Italy, The Netherlands, Norway, Sweden, and the United Kingdom. Canada and the United States are also taking part. The British Standards Institution holds the secretariat.

As EPA has reported, "Experience already gained in various countries has shown that the full benefit of modular coordination can only be achieved by international cooperation. In view of this experience and of the need for European countries to reduce their building costs if they are to solve their housing shortage, the European Productivity Agency has taken up the question of modular coordination in the building industry."

The project is being handled in two stages. The first has been completed. This was the assembly of views and experience from each country, a study of the theory of modular, and development of a recommended standard module. The second is now being completed. This was the practical application of the theory of modular measure by construction of a trial building in each of the participating countries. Reports from each participant are to be studied. These reports are now being prepared for publication.

Part 1 of the project was reported in a publication issued by the European Productivity Agency in 1956 and entitled *Modular Coordination in Building*.[2]

In addition to recommendation of 10 cm (approxiately 4 in.) as the standard module, one of the important results is compilation of an international glossary of terms for modular coordination, the terms being published in nine languages: English, French, German, Danish, Norwegian, Swedish, Italian, Dutch, and Greek. The report contains sections on design, manufacture, and building, and was prepared for use as a guide to the technicians participating in the second phase.

The countries participating in EPA Project 174 were anxious to have the U. S. work with them on the project, despite the fact that EPA is a European organization. Information concerning work done in the U. S., particularly in ASA Project A62, was made available for use in the first phase of the project. As a result, the American Standards on modular coordination and a bibliography of information concerning modular work in the U. S. are included in appendixes in the report.

In recognition of the U.S. work done through Committee A62, the American Standards Association was asked to take part in the second phase of the project, and with the endorsement of the A62 sponsors, ASA signed a contract with EPA. Under the contract, ASA was to report on a building constructed in accordance with the principles outlined in the EPA report, *Modular Coordination in Building*. The report was to be presented by ASA to EPA Project 174 for use in developing its report on the second phase of the project.

James E. Coombs, noted modular contractor, advocate of modular, and frequent spokesman on the subject for the Associated General Contractors of America, agreed to serve as the USA expert to handle this experiment and to prepare the report. As Mr Coombs himself has explained (see page 233), he attended a meeting in Cambridge, England, early in 1958 to familiarize himself with the details of the program. The project was carried out with the cooperation of

[2]Copies are available from Organization for European Economic Cooperation, Washington Mission, 2000 P Street, N.W., Washington 6, D. C., at $1.50.

C. E. Silling of Charleston, West Virginia. The building selected for the experiment was a book store at the university in Morgantown. It was on a small steep site between two existing buildings, and as Mr Silling describes it "cockeyed in shape." "It was an excellent opportunity for Coombs to show Modular Measure applicable to all sorts of peculiar conditions," Mr Silling has pointed out. Mr Coombs' report has been submitted to EPA on behalf of ASA.

The British Standards Institution, technical secretariat for EPA Project 174, announced recently that its new laboratories and offices at Hemel Hempstead have been designed as its contribution to the project. Bruce Martin, architect who designed the new BSI building, heads the project's technical secretariat. The EPA project itself is under the supervision of E. Skarum, with headquarters in the EPA office, Paris.

The international report on phase 2 of the project, representing a compilation of the various national reports, is being prepared for publication.

Two other international activities are under way on modular coordination. One is on standardization and modular coordination and is being carried out by the Housing Committee of the United Nations' Economic Commission for Europe. At a meeting this year, an *ad hoc* committee took note of the EPA project described above, and made recommendations to the ECE Housing Committee on acceptance of guiding principles to be recommended to the governments of member countries. One of the purposes would be to agree on standards common to the different countries as a means of encouraging international trade. The International Organization for Standardization is recognized as the medium for such international standardization.

The ISO itself has work on modular coordination under way through its Technical Committee 59 on Building Construction. France holds the secretariat of TC 59. The 21 participating members are: Australia, Austria, Belgium, Brazil, Denmark, Spain, Finland, Germany, India, Israel, Italy, Netherlands, New Zealand, Norway, Poland, Portugal, Rumania, Switzerland, Sweden, United Kingdom, and USSR. The USA has observer status only. Belgium holds the secretariat of ISO/TC 59 Subcommittee 1 on Modular Coordination. A Working Group of Subcommittee 1 is now developing recommendations on modular terminology. Members represented on the Working Group are the national standards associations of Germany, France, Poland, Sweden, United Kingdom, and USSR. The United Kingdom holds the secretariat. Subcommittee 1 has already completed draft proposals defining the module and providing standard definitions. These have been submitted to the member-bodies of ISO/TC 59 for formal consideration.

As for the future of the Modular Method in the United States, reactivation of Sectional Committee A62 and its subcommittees should help to bring about the condition referred to by the Office of the Chief of Engineers recently. Following a survey directed to local architect-engineers employed by the Office, Harry B. Zackrison, chief of the Engineering Division, Military Construction, commented: "The most beneficial development that can be attributed to modular measure has been in the standardization on the modular basis of many building products. The system will not be 100 percent effective until all manufacturers standardize on the same basis." The standards developed by Committee A62 will make it possible for manufacturers of different building products and materials to standardize on the same basis.

U. S. Report to EPA

by JAMES E. COOMBS
President, Baker & Coombs, Inc

SOME TIME AGO the American Standards Association contracted with the European Productivity Agency (EPA) of the Organization for European Economic Cooperation to prepare a report on the practical use of the modular method in the United States. Since the firm of Baker & Coombs had completed a number of modular structures in West Virginia for various architects, ASA selected the firm's president (James E. Coombs, author of this statement) as a qualified person to prepare the report.

After accepting the appointment, Mr Coombs attended the EPA modular meeting in Cambridge, England, early in 1958 to determine exactly what information would be most beneficial in the report. In preparing the report, the architectural firm of C. E. Silling & Associates of Charleston, W. Va, gave able assistance, as did individual members of the firm of Baker & Coombs. The report was also supplemented by data submitted by various sub-contractors and material suppliers throughout the United States.

The report was based on a small addition to an existing building at West Virginia University that was to serve as a bookstore. This building was selected because it was small enough so that the application of the modular method could be easily reported, it was a pure modular structure, and since it was attached to an existing non-modular structure, it demonstrated the methods of deviating from modular, on modular drawing, to fit a special situation. The report compared actual job costs as opposed to similar non-modular work, and contained a complete cost breakdown, as well as architects' drawings, shop drawings, and similar details.

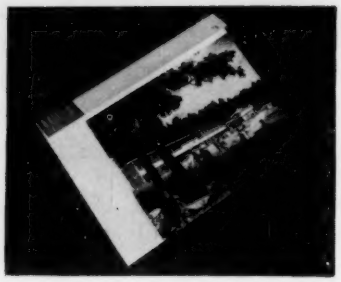
The completed report was submitted by Mr Coombs personally to the EPA modular group meeting in Athens, Greece, in the fall of 1958, and has been released to the various countries for their study and approval. In the spring of this year, ASA was notified of the acceptance of the report, and the contract between ASA and EPA was completed and fulfilled.

It is the hope of all concerned that this cooperative effort will help all countries now actively conducting modular work on an ever-expanding basis.

How New Association Promotes Modular Method

by BYRON BLOOMFIELD

Executive Director, Modular Building Standards Association; Secretary, Sectional Committee A62



MBSA Reports *give news of modular activities.*

ON JULY 12, 1957, the Modular Building Standards Association was incorporated as "a national non-profit membership organization dedicated to the promotion, by educational and other means, of the acceptance and application of the principles of modular dimensioning standards and related subjects, as applied to the field of planning for construction, and the dimensioning of the materials, appliances, and items employed in construction and related activities."

By sponsoring the formation of this new association, the American Institute of Architects, Associated General Contractors of America, National Association of Home Builders, and Producers' Council combined their efforts to expedite adoption and application of modular construction practices in the United States. Nine months ago, MBSA acquired its first permanent staff and now reports the formula to be working.

The first six months of MBSA's active existence was concerned primarily with the formulation of services to provide genuine and tangible benefits to MBSA members—whether they be architects, producers, home builders, or contractors.

Two of the newly activated services are: (1) Publication and distribution of *MBSA Reports;* (2) A modular identification symbol for truly modular products to be used on manufacturers' literature.

MBSA Reports contain items of interest and service to practically everyone in the building industry. In addition to the very important function of carrying status reports on ASA A62 Executive Committee and subcommittee activities, the following services are included:

- Reprints of current published technical articles involving modular practices and usage
- Two- and four-page manufacturers' brochures on modular products
- Summaries of conferences and symposiums on modular dimensional practices
- Reporting of MBSA organizational activities to bring about industry conversion to modular
- Development of modular teaching aids for schools of architecture, and text material on modular methods
- MBSA surveys and other activities yielding valuable market information on modular products

This identification symbol is being made available by the MBSA for use by manufacturers of modular products.

MODULAR

Sizes in conformance with the recommendations of the MODULAR BUILDING STANDARDS ASSOCIATION

The second significant MBSA service to members will be released and widely publicized in the near future. It will consist of the symbol "Modular" to be used by MBSA's manufacturer-members on their literature describing truly modular products which follow the principles set forth in the A62 Guide. This symbol will make it easier for architect-users of modular products to identify modular items in producers' literature and at the same time assure them that the products so identified do actually conform to the principles of American Standard A62.1-1957.

As is commonly known, architects *want* modular products but are generally unaware of their availability. Therefore, the use of this symbol and distribution of product literature in *MBSA Reports* should encourage manufacturers to prepare literature on their modular products.

A simple test for modularity of building products is being distributed by MBSA in conjunction with the symbol, for consideration by producers of items such as bath tubs, unit air conditioners, and other current production items for which standards have not yet been developed by Committee A62 through ASA procedures.

Simultaneously with formulation and development of modular services during the early period of MBSA's history, technical information has been compiled by the MBSA office. Most significant has been the Producers' Council *Technical Bulletin 87,* devoted exclusively to "Modular Measure in Residential Construction."

During the next two or three months intensive membership promotional activities will take place. As MBSA continues to expand its membership and enlarge its technical staff, it can be expected to function very actively in the interests of its four sponsors toward rapid evolution of additional American Standards through ASA Committee A62.

INTERNATIONAL WORK ON MILK

AMERICAN AND AUSTRALIAN groups interested in equipment for testing milk and milk products have been invited to develop and formulate an international standards recommendation for apparatus for the determination of the percentage of fat in milk by the Babcock method.

This was one of the resolutions made at the first plenary session of Technical Committee 90 of the International Organization for Standardization (ISO), which was held in Berlin, Germany, May 12-14, 1959.

Representatives from eight countries participated in the meeting — Belgium, France, Germany, Holland, India, Ireland, Switzerland, and the United Kingdom. Hungary and Pakistan had sent observers.

The United States and Australia were not represented. American groups interested in apparatus for testing milk and milk products had been invited prior to the Berlin meeting by the American Standards Association to discuss whether the United States groups are interested in participating in the work of ISO Technical Committee 90. The conference had decided that it would be desirable to send an observer to Berlin, but no suitable representative could be found for the time of the meeting.

Australia had made its participation contingent on the inclusion of the Babcock method in the working program of ISO Technical Committee 90. The Babcock method is also used in South Africa and, to some extent, in the United Kingdom.

ISO Technical Committee 90 was established at the suggestion of the Deutscher Normenausschuss, the German member-body of the International Organization for Standardization. The Germans had supported their suggestion with the argument that exports of milk-testing apparatus were handicapped by the different standards used in different countries for the test methods of milk and milk products and for the calibration and dimensions of milk testing apparatus. It was also pointed out that international standards would be welcomed in countries which are beginning to industrialize and which have as yet no standards of their own. These countries are inclined to prefer international standards to the national standards of any one industrial nation.

The Berlin meeting agreed on "Apparatus for testing milk and milk products" as the title for ISO Technical Committee 90. The scope of the committee's work was defined as follows: "To standardize the dimensions of apparatus for testing milk and milk products, their details of construction, and their methods of calibration."

The committee also decided to coordinate its work with the work of other ISO committees, namely ISO/TC 34, Agricultural Products, and ISO/TC 48, Laboratory Glassware and Related Apparatus. Observers from these two ISO committees were present at Berlin.

A working group was established which formulated a draft recommendation on apparatus for the determination of the percentage of fat in milk by the Gerber method. This draft proposal will be circulated to ISO member countries and will be available in the U. S. through the American Standards Association.

Another working group was established for milk density hydrometers and hydrometer jars. Furthermore, a resolution was passed inviting all member countries to suggest other milk and milk product equipment for which international standards could be developed under the scope of the committee.

The German standards body, which holds the secretariat for ISO/TC 90, had prepared voluminous background material, giving among other things detailed descriptions of various national standards for milk-testing equipment. American specifications had not been available for compilation of this background material.

Documents and final resolutions of the Berlin meeting will be available for reference at the American Standards Association as soon as they are issued by the secretariat.

Delegates to Berlin meeting of ISO/TC 90. Below: G. Tierie, Holland; K. Schneider, Switzerland; M. J. Claesen, Belgium; M. Castan, leader, French delegation. Top, right: part of British delegation, with the leader, Dr A. L. Provan, second from left. Lower, right: part of German delegation, with the leader, Professor Schwarz, at far right.

CRANE COMPANY TELLS THE WORLD ABOUT STANDARDS

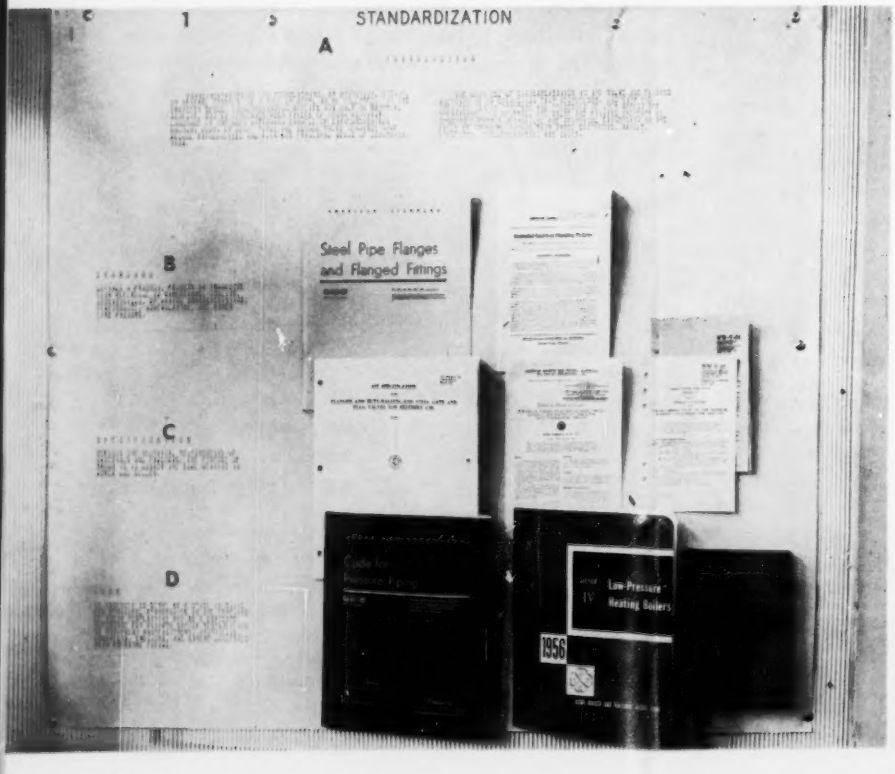
ANYONE ENTERING THE LOBBY of the Crane Company's Engineering Division building in Chicago can see how Crane Company puts standards to work. Four exhibit panels, shown here, tell the story of standards and how they apply in the pipe and fitting industry. The exhibit was prepared by the standards engineers working under W. P. Kliment, Crane Company's Engineer of Standards. Mr Kliment was awarded the Standards Medal by the American Standards Association in 1958 for his outstanding work in standardization.

In order to make it easier for our readers to follow the exhibit story, the captions, which are typewritten on the exhibit panels, are identified by means of letters on these photographs, and reproduced in type below.

A INTRODUCTION

Standardization is the establishing, by authority, custom, or general consent, of a rule or model to be followed. In its broadest sense, standardization applies not only to material objects, but it permeates most fields of human activity. Language is the most important example of standardization brought about by man. Words are sounds whose meanings have become standardized and form our principal means of communication.

The main use of standardization in the valve and fitting industry is in connection with technology, industry and business, their products and processes as they affect our operations. In general, the valve and fitting industry is concerned from a mechanical and technical standpoint in the field of pressure piping with three documents, namely, standards, specifications, and codes.



B STANDARD

Defines a product, process, or procedure with reference to dimensions, quality, construction, operating characteristics, performance, nomenclature, and other like factors.

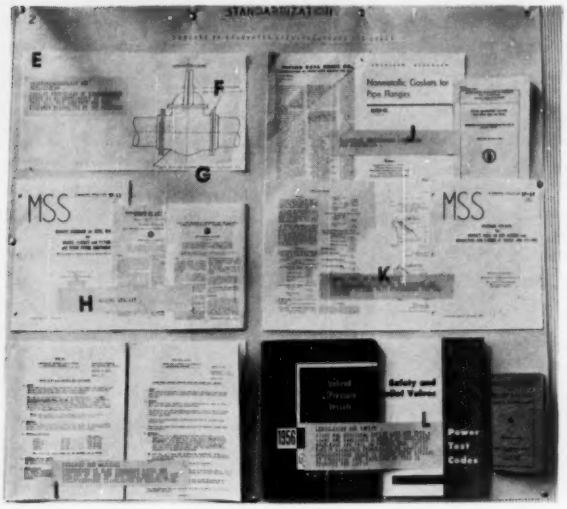
C SPECIFICATION

Defines the technical requirements of materials and products, the purpose of which is to convey the same meaning to buyer and seller.

D

Is intended to serve as a guide to state and municipal authorities in the drafting of their regulations and as a standard reference for minimum safety requirements to equipment manufacturers, architects, engineers, erectors, and others concerned with pressure piping.

2 PURPOSE OF STANDARDS, SPECIFICATIONS, AND CODES



E INTERCHANGEABILITY AND REPLACEMENT
Enables production of complementary goods to be coordinated in systems that will fit together and work together regardless of the producer.

F
ASA B16.5 Flanges (By Manufacturer #1)

G
ASA B16.10 Valves (By Manufacturer #2)

H ASSURE QUALITY

I PURCHASE RAW MATERIAL
Purchasing is also concerned since the quality of the raw materials must meet the specifications established by engineering.

J ELIMINATE UNNECESSARY VARIETIES AND DIMENSIONS

K REDUCE COST OF MANUFACTURE
By establishing standard tolerances and finishes in line with performance for the product.

L LEGISLATION AND SAFETY
State and municipal safety laws and regulations are sometimes a result of inadequate knowledge and fail to promote real safety. Safety standards promulgated by competent organizations tend to remedy these defects by promoting true knowledge of what is required for safety.

3 TECHNICAL SOCIETIES AND ORGANIZATIONS

M
In general, the valve and fitting industry is interested in approximately a total of 250 publications consisting of various standards, specifications, codes, and guides, which are sponsored or issued by technical societies, standardization bodies, municipal and governmental agencies and consumer groups. The interrelationship between these different bodies is shown on the chart below.

4 APPLICATION OF STANDARDS AND SPECIFICATIONS TO CRANE PRODUCT

N AUTHORIZATION OF MATERIALS AND DESIGN
O CERTIFICATION, APPROVALS AND ACCEPTANCE

P Per an established system of distribution, copies of current publications are sent to the engineering, sales, manufacturing, and purchasing divisions as well as Crane, Ltd, Montreal, and Crane, Ltd, England.

SPECIFICATIONS AND STANDARDS

A proposal of some basic definitions

by JOHN GAILLARD
Consultant on Industrial Standardization

Unless one is a genius, it is best to aim at being intelligible.

Anthony Hope

EVEN THOUGH THOUSANDS of documents have been produced with the designation "specification" or "standard," there still appears to be great confusion in discussions on this subject.[1] In an effort to assist in clarifying this situation, basic definitions of the concepts "specification" and "standard" are submitted here, as follows:

A *specification* is a statement of requirements to be met if a given objective is to be attained.
A *standard* is a specification for recurrent use.

According to these definitions, every standard is a specification, but not every specification is a standard. The difference lies in the recurrency of use.

The Concept "Specification"

WEBSTER defines a specification as "a statement of particulars." What particulars do we have to state when we are writing an industrial specification? This depends on the purpose for which the specification is intended — that is, on the *objective* we have in mind. First of all, then, we must determine the particulars or characteristics of our objective. What are we driving at? What *requirements* must be met if we are to consider our objective as having been attained? We must begin by specifying the objective in terms of such requirements to clarify our own mind and to be able to tell others what we want to get done.

A specification of the requirements of an objective—which we may call an "objective specification" [2] — is essentially independent of the question whether these requirements can be met in practice. A research program may be based on a pure "objective specification," the assignment of the research group being to find means of attaining the specified objective. The ultimate result of research, often followed by development and engineering, will be a set of specifications stating the requirements to be met by means of attainment or, briefly, *means*. This term should be given a very wide

Dr John Gaillard is a consultant on the organization and operation of standardization work, including the education and training of standards engineers. He was formerly a member of the ASA staff and a lecturer at Columbia University. In 1954 *he received the ASA Standards Medal "for leadership in the development and application of voluntary standards" and in* 1956 *he was elected a Fellow of the Standards Engineers Society.*

[1] "Let's Speak English: Standards or Specifications?" by Marcus A. Acheson, THE MAGAZINE OF STANDARDS, June 1959.

[2] The word "objective" is used here in its meaning as a noun. The requirements written into the specification of an objective may be either "objective" (adjective)—that is, independent of human opinion or preference, but dictated by laws of nature — or "subjective," that is, resulting from personal preference.

interpretation: it applies to anything that contributes to the attainment of an objective, such as design; materials and components; tools and equipment; operations and processes; methods of computation; selection and training of workers; safety measures; and so on. Each of these "means" must meet certain requirements if it is to be effective as a factor in attaining the total objective.

Clearly, the requirements to be met by means of attainment must be derived from the requirements of the objective. In other words, "means specifications" are the translation of the "objective specification" into requirements to be met by things that "will do the work."

Groups and Kinds of Specifications

There are, then, two main groups of specifications: "objective specifications" and "means specifications." Unless the latter are available, the objective specification remains an expression of "wishful thinking" — which may become a reality when more technical progress has been made. However, an "objective specification," found to be impracticable for the time being, often is revised so as to make possible immediate action with means presently available.

For the sake of brevity we might designate "objective specifications" and "means specifications" as "O-type" and "M-type" specifications, respectively.[3] In practice, we also have combinations of these two types which we call "combined O- and M-type," or "COM-type," specifications.

There are as many different *kinds* of specifications as there are kinds of objectives and means of attaining them. In practice, we have specifications for design; manufacturing; inspection; testing; quality control; purchasing; sales; maintenance; cost accounting; and many more. Each of them will be found, upon analysis, to be "a statement of requirements to be met if a given objective is to be attained."

Specifications Used in Purchasing

Purchasing calls for two kinds of specifications. One kind states the requirements to be met by the *item* to be purchased. Such an "item specification," based on the requirements of the objective which the specifier has in mind, is intended to tell the purchasing agent *what* to buy, and the supplier *what* to sell. It is essentially a "technical" specification in that it is not concerned with such matters as price; sources of supply; terms of delivery and payment; and other features of the purchase considered as a commercial transaction. The specification stating the particulars in these matters—the actual "purchase specification"—together with the technical item specification, form the basis for the *purchase contract*. The two kinds of specifications may be used as separate documents, in which case the purchase specification will refer to the item specification by title or symbol. If the two documents are combined into a "purchase contract," the difference between this and the "purchase specification" fades out.

The Concept "Standard"

As stated by the second definition presented here, a *standard* is a specification for recurrent use. Therefore, a standard must meet the same requirements in terms of specificity, completeness, clarity, and conciseness as does a "mere" specification. In fact, in general a standard should be a "high grade" specification[4] because there are important reasons for its recurrent use, such as maintenance of a level of performance or quality; assurance of interchangeability; economy of long production runs; and so on. These and other advantages of the systematic use of standards have been set forth in many other places and need not be reviewed here again. What may be noted is that the recurrent and often widespread use of a standard in general calls for (and also warrants) the expenditure on its formulation of more effort, time, and money than is justified in the development of most specifications not intended to serve as a standard.

The One-Stage Approach

The approach to the definition of the concept "standard" has been made here in two stages: the concept "specification" has been defined first, and the concept "standard" has been defined next as a specification for recurrent use.

The concept "standard" could be defined also by a "one-stage" statement, by a combination of the two definitions presented earlier in this article, as follows:

> A *standard* is a statement, to be used recurrently, of requirements to be met if a given objective is to be attained.

However, the "two-stage" approach appears to have some advantages. In addition to being simpler in its wording, it stresses the basic identity of the concepts "specification" and "standard." Also, having a definition of the concept "specification" by itself may have its merits in the promotion of the art of writing specifications — regardless of the question whether they will be used as standards.

In the final analysis, it matters little whether the proposed definitions are used separately or welded into a single one. Their main purpose is to clarify concepts basic to the fundamental philosophy of standardization.

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[3] Designation by symbol makes it unnecessary to explain that the word "objective" is used here as a noun. Also, use of the designation "M-type" will prevent misunderstanding of the term "means specification," in verbal discussions. When pronounced quickly, this term cannot be distinguished from "*mean* specification." This may not only cause confusion (compare "mean" value), but probably also will lead to bad jokes.

[4] The term "high grade" refers here to the "quality" of a standard considered as a specification and not to the nature of its contents.

HOW TO SIMPLIFY PREPARATION OF SLIDES AND ILLUSTRATIONS

by L. S. BONNELL

THE IMPORTANCE OF SHARPENING our communications has received more and more attention in recent years. As a result, some improvement has been seen in the quality of both oral and written communications on technical and other complex subjects. But one area definitely needs much more attention. This is the preparation of graphs, charts, or other pictorials that in many instances are vital for clarity in presenting technical material.

The main problem has been to provide the technical author with a simple, reliable, and efficient way of preparing his slides or illustrations, and encourage him to use it. A new American Standard, Illustrations for Publication and Projection (Y15.1-1959), offers a ready solution of this problem.

MR BONNELL, chairman of Subcommittee 1 on Illustrations for Publication and Projection of Sectional Committee Y15, Preferred Practice for the Preparation of Graphic Charts, and Other Technical Illustrations, is with the Process Research Division, Esso Research and Engineering Company, Linden, N. J. He represents the American Chemical Society on Committee Y15.

C. D. Hanscom, Bell Telephone Laboratories, New York, was chairman of the Drafting Practices Subgroup that prepared the core of American Standard Y15.1-1959. Professor Douglas P. Adams, Massachusetts Institute of Technology, is chairman of Committee Y15. Sponsor of the Committee is The American Society of Mechanical Engineers.

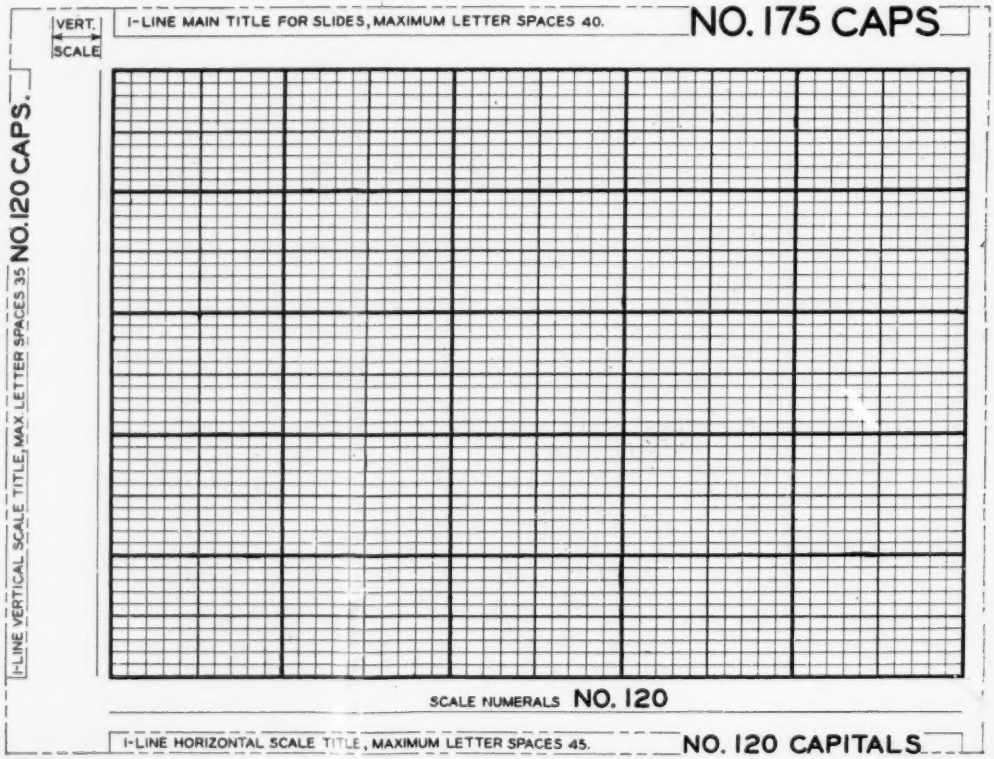

VERT. SCALE
1-LINE MAIN TITLE FOR SLIDES, MAXIMUM LETTER SPACES 40.
NO. 175 CAPS
1-LINE VERTICAL SCALE TITLE, MAX. LETTER SPACES 35
NO. 120 CAPS.
SCALE NUMERALS NO. 120
1-LINE HORIZONTAL SCALE TITLE, MAXIMUM LETTER SPACES 45.
NO. 120 CAPITALS

FIGURE 1. Standard drafting form for half-size printing or for a slide, as given in American Standard Y15.1-1959. Figure on this page is reproduced exactly as given in the standard, published by The American Society of Mechanical Engineers.

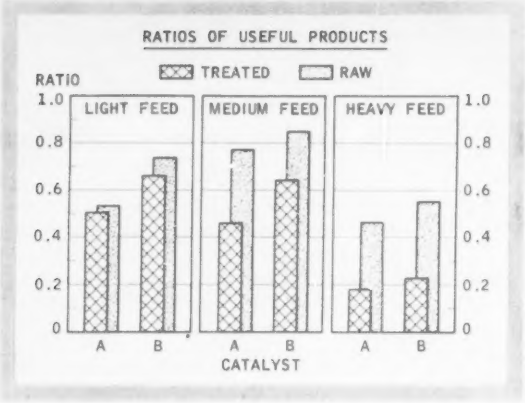


FIGURE 2. Bar graph as it would appear in a full size 3¼ x 4-inch slide. Figure has been prepared using standard drafting form shown in Figure 1. Lettering has been done with electric typewriter having 14-pt Gothic type.

This new standard, approved April 22, 1959, updates and replaces two earlier ones—Engineering and Scientific Charts for Lantern Slides, Z15.1-1947 (first approved in 1932); and Engineering and Scientific Graphs for Publications, Z15.3-1947 (first approved in 1943). Newer developments over the years made these standards partly obsolete and inadequate. As a result, the instructional leaflets published by various scientific societies, though based on these standards, increasingly made use of the new approaches and thus became inconsistent with each other. This confused situation prompted development of a modernized standard to meet the needs of these societies.

The work was begun in 1949 by a subcommittee (Y15-1) of the Y15 Sectional Committee on Preferred Practice for the Preparation of Graphs, Charts, and Other Technical Illustrations. Committee Y15, organized under the procedures of the American Standards Association, works under the sponsorship of the American Society of Mechanical Engineers. The results of the subcommittee's work, cleared by the sectional committee, and submitted by the sponsor for approval by the American Standards Association, are now available in American Standard Y15.1-1959.[1]

The new standard was written primarily to guide the technical author. Therefore, it concentrates on practical application of fundamental concepts. Its main features may be listed as follows:

- It is brief (7-page working text, 12 illustrations, 2 tables).
- It shows pictorially how to apply good design principles in preparing illustrations (or slides) of specific subjects.
- It provides a simple, standard, drafting-form system for making a properly scaled working draft of an illustration (graph, chart, sketch, etc).
- It makes feasible the use of a single drawing for either a slide or a printed illustration.
- It includes updated easy-to-use information on drafting techniques. The excellent results possible with modern electric typewriters and lettering guides are illustrated.

The standard thus provides the basic working tools which the technical author can readily use with little effort. No complex rules or formulas are needed. Experience has proved that the standardized form system is entirely practicable for the average situation; and it can be relied upon to produce highly legible and effective printed illustrations or projections. Moreover, it saves time and drafting expense.

In developing this standard, the committee studied information from various sources on modern methods of preparing and using technical illustrations. A country-wide survey gathered data on current projection practices. This revealed among other things that the great majority of technical authors use slide originals for illustrating publications. The collective experience of several commercial illustrators and of experts in communications was also considered.

All this finally led to the adoption of a single set of standard recommendations by which one drawing can be used either for projection or for the printed page. This standard takes into account the characteristics and optics of projection systems commonly used in meeting halls or auditoriums, as well as the physical capabilities of modern printing processes.

Subsequently, the committee devised ruled line and lettering standards which are compatible with readily available drawing and lettering instruments and with selected characters on modern electric typewriters. Standard printer's point bars were adopted as the primary reproducible standards for weights of ruled lines. For flexibility, two standard drafting forms were evolved, one for half size (Figure 1) and one for one-third size reproductions. Either can be used for any projection original. Figure 2 shows the field of a typewritten slide prepared as recommended. This was drafted using the guide form in Figure 1, and lettered with an electric typewriter having 14-pt Gothic type.

The committee believes that American Standard Y15.1-1959 will ordinarily satisfy the needs of most technical authors. From the standpoint of the scientific societies and other interested organizations, the basic elements of the standard provide a firm foundation for a variety of applications. As an example, based on this standard, the Division of Petroleum Chemistry of the American Chemical Society last year produced a leaflet for their speakers, entitled: Suggestions on How to Write, Present, and Illustrate a Technical Paper. It was well received.

Looking to the future, a supplementary standard is under preparation. This will present detailed information on the preparation and use of various kinds of illustrations.

[1]American Standard Y15.1-1959 has been published by The American Society of Mechanical Engineers and copies may be obtained from ASME or from the American Standards Association at $2.00 each.

This is the twenty-third installment in the current series of rulings as to whether unusual industrial injury cases are to be counted as "work injuries" under the provisions of American Standard Method of Recording and Measuring Work Injury Experience, Z16.1-1954. The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply. Decisions on unusual industrial injury cases are issued periodically by the Z16 Committee on Interpretations.

Sectional Committee Z16 is sponsored by the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

INDEX TO CASES 400-600. *An index to Cases* 400-600 *has now been completed. Arranged numerically by the number of the applicable paragraph of American Standard Z16.1-1954, the index includes the number of the case indexed and a key letter indicating what the decision was in each case. Each index reference includes a brief description of the case.*

Reprints of Cases 400-600, *with the Index, are now available from ASA at* $1.50. *Discounts for quantity orders may be obtained on request.*

Are These Cases Work Injuries?

CASE 674 (5.18)

Borderline case. Does not set a precedent.

CASE 675 (A5.16)

At the time of his death, a lineman had been attempting to clear an electric power cable from the top of an overhead frame, approximately 15 ft high and 20 ft wide, capped with a light steel cap, 1 ft thick and 6 in. wide. The base of the cap had a 2-in. flange on each side running full length. The purpose of the overhead frame was to elevate the cable which carried power to an electric power shovel over the roadway to clear road traffic. The man in question had climbed the 15 ft up one of the uprights maintaining the cap, and had tossed the cable forward from the initial end; the cable had slid forward to the other end of the cap. The strain involved in flipping the first end loose was believed to be very minor. The lineman's position on the cap was sitting down with his feet resting on the flanges on each side, horseback fashion. Shortly after flipping the initial end loose he started to slide forward to free the opposite end of hanging cable (also a very minor activity). During this process he suddenly half raised up from his position and called out to a job foreman who was standing immediately below, then proceeded to topple over sideways, falling limp to the ground below, crushing his skull and fracturing bones of the neck.

Investigation disclosed that the employee had been under constant medical treatment for heart trouble for some years immediately prior to his fall. It did not appear that any unusual strain was involved, and he had performed this same and similar tasks often before with no adverse effects.

Decision: The fatality should be considered industrial, and should be included in the work injury rates with a time charge of 6,000 days. Although there is every indication that the employee may have suffered a heart attack, he did actually fall 15 ft or more to the ground, and suffered severe injuries which were the probable causes of death. This appeared to be similar to Example 1 in A5.16 of the standard.

CASE 676 (5.2)

About 15 years previously an employee had been run over by a farm wagon, but the incident had not caused disability or trouble at that time, even though the vehicle had passed over his left shoulder and right hip. Other incidents, such as being thrown from horses and falling out of a hayloft, had not caused trouble with his back. About a year prior to the time in question, he had had spontaneous onset of pain in his lower back; and about four months previous he had again been laid up on advice of his doctor.

On the day in question, the employee was a member of the maintenance crew. They were attempting to get a light line over a horizontal 6-in. pipe, about 60 ft above ground level, in order to rig a block and tackle. There was no readily available means of access. A ¾-in. nut was tied to the end of a chalk line, and members of the crew took turns trying to heave it over the 6-in. pipe from the ground. The employee in question threw about six times. As they were unsuccessful, it was decided to try throwing the nut and line over the pipe from the top of a cooling tower, resulting in a horizontal throw of 30-40 ft. The employee made 10 to 15 attempts, whirling the nut around a short length of line and then sailing it toward the 6-in. pipe. The final throw made by this employee was successful, and consisted of throwing the nut like a baseball. The employee felt no pain prior to, during, or immediately after making the throws. However, later in the day his back began to bother him—a slight backache. The following day he was sent home at noon, as his back was stiffening and hurting. This was the first indication his foreman had of his difficulty. The employee was examined by an orthopedic specialist who believed the patient had an aggravation of his pre-existing condition by the work he was doing.

Decision: This back injury should be included in the work injury rates because, although the employee had some previous history of back trouble, it seems clear that the disability in question arose out of specific work actions, and it was the doctor's opinion that this activity was a factor in the condition which caused the disability.

CASES 677-686 (5.16)

Ten additional cases (see Cases 648-667).

CASE 687 (1.6)

A utility crew was assigned work which entailed the removal of sections of a 3-conductor transmission cable from a manhole in the street. The crew members had guarded the area with caution sign flags and cones, and a guard rail. There was a clear sky, and the road was dry. While the men were working, a passenger car came down the street and crashed through the caution sign and guard rail, and smashed into the rear of the crew's truck. This pinned one of the men between the hood of the car and the tailboard of the truck. It hit two other men and knocked them into the street. All

three employees were hospitalized for varying lengths of time. Upon investigation, it appeared that the accident had occurred only through negligence on the part of the driver of the passenger car.

Decision: These injuries should be included in the work injury rates in accordance with the ultimate extent of disability. Although there does not appear to be anything the company could have done to prevent these injuries, they did arise out of and in the course of employment, and therefore should be counted.

CASES 688-697 (5.16)

Ten additional cases (see Cases 648-667).

CASE 698 (5.16)

Borderline case. Does not set a precedent.

CASE 699 (1.2.4)

An employee gave notice of leaving company employ one week in advance. At the beginning of his next-to-last shift, he went to the plant nurse with a sore eye, stating that while he was closing the door of the first wash filter two days previous, iron sulphide dust had entered both eyes. He had been wearing safety glasses (required at all times in the plant). There had been no witnesses to this occurrence. The plant doctor examined the man, gave him an ointment, and requested his return the following day, at which time the man was checked, advised to continue with the treatment, and to come back within two days. However, as this was his last day of employment the man did not return.

About three weeks later it was discovered that the man had not seen a doctor again for another week and a half, at which time he was suffering an infection in the right eye. He again saw the doctor a few days later, and this time he had infection in his left eye. On his third visit to the doctor both eyes seemed to have cleared up. However, in the meantime the Board of Health regulations had not let him work at his new job of operating his own restaurant, and the man claimed 17 days compensation, which was granted.

Decision: This injury should be included in the work injury rates on the basis of the statement of the employee (which was not refuted) that there was an injury in the course of and arising out of the employment, which subsequently prevented him from working at the only job then open and available to him. The employee's failure to follow instructions of the plant doctor to return for further treatment does not justify excluding the case from the record.

CASE 700 (5.14)

A worker sustained a metatarsal fracture of his left foot as the result of an in-plant accident. He was fitted with a walking cast, and in the doctor's opinion he could do an established job that was open and available to him. The worker accepted the job available, and did not lose any time as a result of the treatment for his fracture. About five days following the accident, blood blisters developed on the worker's uninjured right foot, but he did not report these blisters. They quickly developed into diabetic ulcers. The worker's personal physician hospitalized him because of an extremely high blood sugar reading and the ulcerated condition of his right leg.

The opinion of the company doctor was that the blisters on the worker's right leg probably resulted from the additional weight he was bearing on it as a result of the fractured left foot, and the time lost was the result of the diabetic ulcers that arose from the blistered areas. He felt confident that the condition causing the worker to lose time would not have occurred were it not for the man's diabetic medical history.

Decision: This lost time should be included in the work injury rates on the basis that the company doctor believed the blisters arose out of the treatment of the fracture; therefore, it cannot be considered as an isolated or independent event, but must be considered as a development from the original disability. This then led to the disability from the diabetic ulcers.

CASE 701 (5.4)

An employee had been operating a press which was fed automatically from a coil of strip steel, and as part of his job he periodically introduced a new coil of steel into the press. While loading a new coil of steel in the usual manner, turning a feeder arm with his left hand and pulling on the side edge of the steel strip with his right hand, he felt a sharp pain in his right thumb. He stated there was nothing unusual about the way he did the job this particular time, and there was no bump, slip, or jerk while he was performing the operation. X-rays revealed a large cystic area in the first metacarpal with a fracture through the tumor. The orthopedic specialist who treated the case stated there was no causative relationship between the tumor and the employee's work. Although the stock is oily and hard to grip, the specialist believed gripping action of any kind could have caused the fracture through the diseased bone; whereas normal bone structure would not fracture under the type of strain described by the employee. It was also believed that the tumor must have existed long before the fracture occurred. The work performed did not aggravate the tumor itself, but the remaining healthy bone surrounding the pre-existing tumor became unable to support the strain applied.

Decision: This injury should be included in the work injury rates on the basis that although the tumor was not related to the work, the fracture to the employee's right thumb arose out of and in the course of his employment.

CASE 702 (5.2)

A laborer was using a pneumatic hammer and cutter to remove a 3-in. thickness of macadam street pavement. When the cutter became temporarily wedged, the man proceeded to rock the hammer back and forth in order to loosen the cutter. While in the process of rocking the hammer, the employee felt a sharp pain run through the area of his lower back and left side. He immediately reported this to his foreman who took him to the company's chief surgeon for examination and treatment. Examination in the doctor's office revealed nothing alarming and the man was sent to a hospital where x-rays were taken and other tests made, all proving to be negative. About 10 days later, the company doctor referred the employee to a specialist who treated him in the hospital for two days, after which the man was discharged.

A week later, the employee reported to the company doctor who informed him he could return to normal work. The patient, however, did not return for another nine days, claiming that he was not able to do so.

Decision: This should be included in the work injury rates as a temporary total disability on the basis of the company doctor's decision to hospitalize the employee for treatment of the injury.

CASE 703 (1.2.3)

Although the employee was wearing protective goggles, a piece of hot slag got under the goggles in some manner, and inside the right lower eyelid. The man reported at once to the foreman, and was sent to the doctor who treated him twice a week for five to six weeks. He was not hospitalized, nor did he lose time from work except when he went to the doctor for treatment.

The doctor authorized by the company reported that the employee had no complaint in regard to the function and vision of either eye, and the doctor did not believe the vision was associated with the injury. He stated that a small adhesion of the lid to the eyeball did not impair the movement of the eyeball, but when the man looked down, the center of the lower lid was drawn slightly down.

Since neither vision nor rotation of the eye was impaired, the doctor said there was a loss of function representing 3 percent of the man as a whole.

Decision: The injury should be included in the work injury rates; the time charge should be 180 days on the basis of the doctor's report that there was a loss of function representing 3 percent of the man as a whole (180 days is 3 percent of the permanent total disability of 6,000 days).

ASTM's 62nd Annual Meeting

THE EDUCATION OF THE ENGINEER in the materials sciences, the use of isotopes in metals analysis and testing, basic research, and an open forum on standardization of materials for nuclear reactors were some of the features of the 62nd annual meeting of the American Society for Testing Materials at Chalfonte-Haddon Hall, Atlantic City, N. J., June 21-26, 1959.

Several sessions and symposiums dealing with testing the engineering properties of soils, road and paving materials, bituminous mixtures, and concrete drew attention to problems important to the national highway construction program.

Sessions on fatigue, effect of temperature, steel, spectroscopic excitation sources, microscopy, identification of water-formed deposits, and visual aids for standardizing and communicating product appearance rounded out the program of 36 technical and report sessions.

In addition, ASTM standards committees held some 900 separate committee technical sessions, marking a new high.

The entire meeting reached a new record, with 3,113 registrations, the highest ever recorded at an ASTM annual meeting.

During the meeting, election of officers for 1959 was announced. F. L. LaQue, vice-president and manager, Development and Research Division, The International Nickel Company, is the new president; Miles N. Clair, president, The Thompson & Lichtner Company, was elected vice-president; and A. Allan Bates, vice-president of research and development, Portland Cement Association, continues as senior vice-president. Mr Clair is a member of ASA's Construction Standards Board.

Mr LaQue, a native of Gananoque, Ontario, has been a member of ASTM since 1935. In 1951 he delivered the Edgar Marburg Memorial Lecture on "Corrosion Testing." He has served as vice-president of the Society since 1957.

In 1949, Mr LaQue received the F. N. Speller Award in Corrosion Engineering from the National Association of Corrosion Engineers, of which he is past president. He is vice-president of the Electrochemical Society and chairman of the Corrosion Research Council of the Engineering Foundation. He also serves as a member of the Advisory Panel to the Metallurgy Division of the National Bureau of Standards.

Among the new members of the ASTM Board of Directors is I. V. Williams, member of the Materials and Testing Standards Board of the American Standards Association, and until this year chairman of Sectional Committee B32 on Standardization of Wire and Sheet Metal Gages. Mr Williams has been chairman of ASTM Committee B-7 on Light Metals and Alloys since 1946, and is a member of the ASTM Administrative Committee on Standards, the Long Range Planning Committee on Technical Committee Activities, and the ASTM Ordnance Advisory Board, as well as a number of standards committees. Recently he was appointed chairman of the Committee on Material Requirements Criteria for Advanced Design of the Materials Advisory Board, National Academy of Sciences—National Research Council.

Other new members of the ASTM Board of Directors are: A. B. Cornthwaite, engineer of materials and tests, Department of Highways, Commonwealth of Virginia; C. L. Kent, assistant director of technical services, The Jones & Laughlin Steel Corporation; H. C. Miller, laboratory engineer in charge of the testing laboratory, Public Service Electric and Gas Company (N.J.); C. E. Nixon, head, Electrochemistry & Polymers Department, Research Laboratories, General Motors Corporation; H. D. Wilde, research coordinator, Humble Oil & Refining Company; and Robert D. Thompson, chief development engineer for commercial and glass products, Taylor Instrument Companies.

Thirteen leaders in the field of engineering materials, who have given outstanding service to the American Society for Testing Materials, particularly in its technical committee work, were honored. All received the ASTM Award of Merit. Among the 13 were several who are known for their work with ASA committees. Among these are:

E. G. Kimmich, chief engineer of Industrial Products Development Division, Goodyear Tire and Rubber Company, active on ASTM committees D-11, Rubber and Rubber-like Materials, and E-1 on Methods of Testing. Mr Kimmich was the American delegate in 1955 at the meeting of the International Organization for Standardization's committee on V-belts.

Lewis S. Reid, formerly general purchasing agent for the Metropolitan Life Insurance Company, now retired, member of ASA's Materials and Testing Standards Board. Mr Reid has worked on committees on paper and paper products (he was chairman of ASTM Com-

mittee D-6); textile materials; electrical insulating materials; soaps and other detergents (for 21 years); wax polishes and related materials; methods of testing; nonferrous metals and alloys; and fire tests of building constructions. He also has been a member of ASTM's Administrative Committee on Standards.

Benoit J. Sirois, chief metallurgist, Phelps Dodge Copper Products Corporation, Bayway, N. J., has been chairman of ASTM Committee B-5 Subcommittee on Wire and Wire Rod and of ASTM B-1 Subcommittee on Copper and Copper Alloy Conductors. He has served as ASTM representative on ASA Sectional Committee C7 on Bare Electrical Conductors.

Herbert W. Stuart, director of quality control, United States Pipe and Foundry Company, Burlington, N. J., has served on ASTM Committee E-11 on Quality Control of Materials since 1957. He is vice-chairman of ASA Sectional Committee A21 (see This Month's Standards Personality, page 227).

Among the important activities during the past year that promise greater progress for the future, as reported to the Society at the annual meeting, is the decision of ASTM's Board of Directors to organize a new Division on Materials Sciences. Objectives of the board will be to focus attention and to coordinate studies on the fundamentals of materials as distinct from engineering considerations. The division's scope will cover all facets of the science of materials, including education and research, as well as the collection, establishment, and publication of appropriate information and material.

Plans for reorganizing the Society into divisions are being considered by the Long-Range Planning Committee of the Society and by the Board.

Among other problems being studied by the Long-Range Planning Committee are standardization procedures and technical committee operations. Two special committees have been set up to look into these questions.

The Long-Range Planning Committee is also studying problems of research, the tremendous growth of the *Book of ASTM Standards* and other publications, and the possible future need for enlargement of the headquarters building.

During the meeting, honorary memberships were presented to Douglas E. Parsons, chief of the Building Technology Division, National Bureau of Standards, and to Jerome Strauss, consultant (retired vice-president, Vanadium Corporation of America.)

For outstanding contributions to the Society's work, the following awards were presented:

The Max Hecht Award (industrial water, sponsored by Committee D-19) was presented to L. D. Betz, general manager, Betz Laboratories, Inc, Philadelphia, Pa.

Committee D-12 Award (soaps and other detergents) to J. C. Harris, director, Application Research Department, Monsanto Chemical Company, Dayton, Ohio.

The Harold DeWitt Smith Memorial Award (textiles) to W. J. Hamburger, director, Fabric Research Laboratories, Inc, Dedham, Mass.

The Edgar Marburg Lecture on "New Polymers—New Problems" was presented June 23 by Dr Herman F. Mark, director, Polymer Research Institute, Polytechnic Institute of Brooklyn.

Dr John C. Fisher, physicist, Metallurgy & Ceramics, Research Department, General Electric Company, presented the H. W. Gillett Memorial Lecture on "The Role of Dislocations in Plastic Deformation (of Metals)."

STANDARDS FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering copies of standards, please refer to the number following the title.

54 CHEMISTRY

India (ISI)

One-mark pipettes IS:1117

Japan (JISC)

46 stds for all kinds of reagents JIS series K 83 thru K 90

Spain (IRATRA)

Quantitative analysis of silicon in aluminum and aluminum alloy parts with low silicon contents UNE 7025

Reagent for analysis: phenol UNE 30061

Sweden (SIS)

Method for the determination of water content according to Fischer-Johansson SIS 16 00 23

USSR

Copper carbonate reagent GOST 8927-58

Laboratory vessels and apparatus GOST 8932-58

621.3 ELECTRICAL ENGINEERING

Australia (SAA)

Approval and test specification for radio and television apparatus SAA C.159-1959 Ap

Approval and test specification for electric fence controllers SAA C.129-1959 Ap

Canada (CSA)

Construction and test of electrode receptacles for luminous-tube signs C22.2 No.34-1959

Construction and test of arc welding equipment, transformer type C22.2 No.60-1959

Construction and test of domestic electric ranges C22.2 No.61-1959

Czechoslovakia (CSN)

4 stds for clamps and joint fittings for overhead lines CSN 34 8730/3

Overhead power lines, general rules for CSN 34 1100

Germany (DNA)

Printed switch circuit DIN 40801
Two-pole plug for safety insulated apparatus 10 A 250 v ~ and 10 A 250 v - 15 A 250 v ~, dimensions DIN 49406
Socket, type P 26s, for automobile head lamps DIN 49727
2 stds for two-pole plug and sockets 10 A 250 v with safety contact for stage use, dimensions DIN 56903

India (ISI)

Three-phase induction motors, dimensions of IS:1231
Classification of insulating materials for electrical machinery and apparatus in relation to their thermal stability in service IS:1271

Japan (JISC)

Method of measuring current noise of carbon resistors JIS C 6403*
Equipment standard for plating operation JIS H 9122*
Testing method for stability of electrical insulating oils JIS C 2101
Electrical insulating oil JIS C 2320
High voltage pin-type insulators JIS C 3821
Selenium rectifiers for battery chargers JIS C 4401

Netherlands (HCNN)

Standard system voltages NEN 400

United Kingdom (BSI)

Insulating oil for transformers and switchgear BS 148:1959
Power transformers BS 171:1959
Terminal markings for electrical machinery and apparatus: Terminal markings for power transformers BS 822:Part 3:1959
Terminal markings for indicating and graphic-recording instruments BS 822:Part 4:1959
Fixed electrolytic capacitors (aluminum electrodes) for use in telecommunication and allied electronic equipment: List of standard capacitors BS 2134:Part 2:1959
Enclosed distribution fuseboards for low and medium voltages BS 214:1959
Flameproof electric motors for conveyors, coalcutters, loaders and similar purposes for use in mines BS 741:1959

USSR

Three-phase asynchronous electric motors from 0.6 to 100 kw GOST 4542-59
Incandescent lamp appliances, testing of GOST 8999-59
Neon lamps, signal type GOST 9005-59
Instrument transformers, laboratory type GOST 9032-59

621.4 INTERNAL COMBUSTION ENGINES

Czechoslovakia (CSN)

Carburator flanges CSN 30 2410
4 stds for magnetos of internal combustion engines CSN 30 4107,-4170/2

United Kingdom (BSI)

Gas and dual-fuel engines BS 3109:1959

621.6 FLUID DISTRIBUTION, STORAGE, CONTAINERS, PIPES. PUMPS

Australia (SAA)

Asbestos cement pressure pipes and joints A41-1959

Austria (ONA)

Concrete pipes. Testing of watertightness and resistance to load ONORM B 5071

Czechoslovakia (CSN)

Centrifugal pumps CSN 11 4603
19 stds for cast iron sewer pipes and fittings CSN series 13 21

Denmark (DS)

Gas cylinders for medical gases. Marking DS 938
Gas cylinders for industrial gases. Marking DS 939

Germany (DNA)

Globe valves with bleeder, working pressure 10 kg/cm² DIN 3513
Straight and reduction union for use on railway cars DIN 1566
Hard rubber pipes DIN 7714
Hard PVC pipes DIN 8062
2 stds for seamless heat-resistant steel pipes DIN 17175

Hungary (MSZH)

Cast iron pipes and fittings, general survey and symbols MSZ 84-56
4 stds for different types of metal flexible tubes MSZ 6205/8-58
Centrifugal pumps. Testing method and quality control MSZ 269-58
Lifting pumps, method of testing of MSZ 9690-58
2 stds for hand pumps, pulsating membrane type MSZ 19014/5-58

India (ISI)

2 stds for braided air hose, heavy and light duty IS:911/2
2 stds for water hose, high and low pressure IS:913/4

Japan (JISC)

Small type centrifugal pump JIS B 8313
2 stds for shallow- and deep-well electric pumps JIS B 8314/5
Flanged check valve, cast iron, 10 kg/cm² JIS B 2045

Netherlands (HCNN)

Gas-taps with butterfly nut connection NEN 3099
Clayware field drain pipes NEN 440

Spain (IRATRA)

2 stds for cast iron fittings: flanged joints, types E and F, nominal pressure 10 UNE 19464/5
Two-flanged elbows (90°), cast iron, nominal pressure 10 UNE 19471
Flanged T-joints and cross-joints, cast iron UNE 19472

USSR

Steel pipes, seamless, cold-drawn and cold-rolled GOST 8734-58
Water cocks GOST 8906-58
Pumps, centrifugal, of general use GOST 6812-58
27 stds (bound together) for cast iron and cast steel pipe fittings GOST 8943/69-59

621.791 WELDING AND ALLIED TECHNIQUES

Australia (SAA)

Certification in boiler welding: Oxy-acetylene and arc welding of pressure pipes SAA CB.14, Parts 2 and 3-1959
Filler rods for welding SAA B.29-1959

Germany (DNA)

Testing of hand welders for steel welding DIN 8560

India (ISI)

Electric soldering irons IS:959

Poland

7 stds for different weld testing PN M-69721/2,-734,-740/1,-750/1

Switzerland (SNV)

2 stds for spot welding of aluminum and aluminum alloys VSM 14112/3

643/645 HOUSEHOLD EQUIPMENT

Germany (DNA)

Household stoves, ovens and cookers for propane/butane gas DIN 3366

Poland

11 stds for different aluminum kitchenware PN M series 770
3 stds for different enameled kitchenware PN M series 774
3 stds for plastic handles and knobs for kitchenware PN M-77775/6

Roumania (CSS)

2 stds for single- and double-bed box springs STAS 5789/90-58

664 FOOD INDUSTRY. PRESERVATION

India (ISI)

Covering chocolate IS:1163
Cocoa powder IS:1164
Icing sugar IS:1152

Israel (SII)

Canned fish in oil S.I. 291 *
Canned melons S.I. 297 *

676 PAPER AND PULP INDUSTRY

Czechoslovakia (CSN)

10 stds for different types of wire netting used in paper industry CSN series 15 32

France (AFNOR)

Properties of basic paper for big bags (paper type G.C.) PN Q 12-005
Properties of blotting-paper PN Q 14-003
Properties of paper for copy-books and similar articles used in school NF Q 11-011

Germany (DNA)

4 stds for different papers for telewriters DIN 6720

Netherlands (HCNN)

Determination of the pH in an aqueous extract of paper NEN 2151

Sweden (SIS)

Cardboard boxes for confectionary, inside dimensions SIS 71 11 10
Gummed paper sealing tapes SIS 71 11 29

USSR

Method of determination of paper transparency GOST 8874-58
Paper tapes for adding machines GOST 8952-59

744 TECHNICAL DRAWINGS

Belgium (IBN)

Drawing office practice. Sizes and scales NBN 509
Drawing office practice. Crosshatching NBN 512

Denmark (DS)

Technical drawings. Designation of surface roughness by triangular symbols DS 58.1
Technical drawings. Designation of surface roughness by figures DS 58.2

Japan (JISC)

Drawing office practice for architects and builders JIS A 0150
Drawing office practice for civil engineering JIS A 0101
Drawing office practice for mechanical engineering JIS B 0001

Netherlands (HCNN)

Engineering drawings. Views NEN 2351
Engineering drawings. Simplified method of drawing thread NEN 2356

Portugal (IGPAI)

2 stds for technical design P-204/5

United Kingdom (BSI)

Draftsmen's drawing pins BS 1677:1959

NEW BOOKS

1959 SAE HANDBOOK. 860 *pp. 44th edition. Society of Automotive Engineers, 485 Lexington Avenue, New York* 17, *N. Y.* $12.00 *to members;* $20.00 *to nonmembers.* Contains 365 reports of SAE technical committees, including recommended practices and SAE standards. Many of the standards conform with American Standards. The SAE is represented on 42 sectional committees, in addition to representation on the Graphic Standards Board, the Nuclear Standards Board, the Special Committee on Legal Procedures, and the ASA Standards Council. The list of these committees, their scopes, and the SAE representatives are included in the *Handbook*. SAE also works closely with other organizations, including the American Society for Testing Materials, the American Society of Mechanical Engineers, the Coordinating Research Council, the National Fire Protection Association, and the National Committee on Uniform Traffic Laws and Ordinances, among others.

Seven new SAE standards are in this edition, among them, Measurement of Vehicle Radio Interference; 1000 RPM Power Take-off for Farm Tractors; and Electric Resistance Welded Low Carbon Steel Tubing, Annealed for Bending and Flaring (Pressure Tubing for Hydraulic Line Service). Nineteen of the recommended practices are new.

Technical revisions have been made in 40 of the standards. Among these are screw threads, which conform in general to the American Standard Unified and American Screw Threads, B1.1, under revision at the time the *Handbook* was issued; Dryseal Pipe Threads, the values in Table 1 of which conform to those in Table 9 of American Standard Pipe Threads, B2.1; and Slotted and Recessed Head Screws, which conforms with American Standards B18.6.2-1956, B18.6.1-1956 and B18.6.4-1958, and with proposed American Standard B18.6.3.

The 1959 edition of the *Handbook* contains all new and revised reports produced by technical committees over an 18-month period, in addition to unchanged reports from the 1957 *Handbook*. SAE plans that future issues will be released annually on January 1.

STANDARD MATERIALS ISSUED BY THE NATIONAL BUREAU OF STANDARDS. *NBS Circular 552. April* 1959. *Third edition.* 27 *pp. Superintendent of Documents, U.S. Government Printing Office, Washington* 25, *D. C.* $0.35. This circular lists the standard materials issued by the Bureau and gives information on certified compositions, properties, purchase procedures, and prices.

About 250 of the samples are of certified chemical composition; some 100 of these have been prepared specifically for use in spectroscopic analysis. Other standard materials include those certified for such properties as acidity (pH), viscosity, melting point, density, index of refraction, and heat of combustion. A number of radioactive materials, uranium isotopes, lithium ores, aluminum refractories, and phosphor materials have been added.

NEW INTERNATIONAL RECOMMENDATIONS

ISO Recommendations are published by the International Organization for Standardization, and IEC Publications are issued by the International Electrotechnical Commission, Geneva, Switzerland. Copies are available from ASA.

SCREW THREADS. *ISO Recommendation R 68. August 1958. First edition. $1.20.* This Recommendation is presented in two parts: (1) ISO basic profile for triangular screw threads (except for pipe threads) as well as the associated design profiles; (2) Basic sizes for screw threads for screws, bolts, and nuts in the major diameter range 0.25 to 5 mm (0.01 to 0.197 in.). The sizes in this range are presented in two series: sizes recommended for general purposes, and sizes recommended for special purposes only.

PLASTICS. DETERMINATION OF WATER ABSORPTION. *ISO Recommendation R 62. April 1958. First Edition. $0.60.* This method of test describes the conventional procedure for determining the weight of water absorbed by a moulded test specimen or one machined to shape from sheet, rod, or tube, as a result of immersion in water for a specified time and at a specified temperature. A modification is included which prescribes the method to be adopted when it is considered desirable to make allowance for the presence of water-soluble matter.

The method applies to all types of plastics, including cast materials, compression and injection moulding materials, extrusion compounds, both flexible and rigid, sheet, rod, and tube materials.

PLASTICS. DETERMINATION OF APPARENT DENSITY OF MOULDING MATERIAL THAT CAN BE POURED FROM A SPECIFIED FUNNEL. *ISO Recommendation R 60. April 1958. First edition. $0.60.*

and

PLASTICS. DETERMINATION OF APPARENT DENSITY OF MOULDING MATERIAL THAT CANNOT BE POURED FROM A SPECIFIED FUNNEL. *ISO Recommendation R 61. April 1958. First edition. $0.60.* Both recommendations cover the procedure, apparatus, and method of calculation and expression of results applicable in conducting the respective test methods.

PLASTICS. DETERMINATION OF THE PERCENTAGE OF ACETONE SOLUBLE MATTER IN PHENOLIC MOULDINGS. *ISO Recommendation R 59. April 1958. First edition. $0.60.* Describes the procedure for determining the percentage of matter which can be extracted by acetone from a finely ground sample of phenolic moulding at a temperature near its boiling point. The extraction apparatus to be used for the test, the preparation of the sample, and the method of calculation and expression of the results are outlined.

MUSCOVITE MICA BLOCKS, THINS AND FILMS. METHODS FOR GRADING BY SIZE. *ISO Recommendation R 67. June 1958. First edition. $2.10.* This ISO Recommendation is based on a uniform system of size-grading for muscovite mica employed by Indian mica producers which has been adopted by various other mica-producing countries such as Brazil, Canada, the Union of South Africa, and the United States. The publication describes a standard method for grading muscovite mica blocks, thins, and films according to size and includes trimming requirements and definitions of relevant terms used in the trade. For the complementary size-grading of splittings, a separate ISO Recommendation is under consideration. These two standards will cover the size-grading of the entire range of the commercial forms of muscovite mica.

Besides size-grading, the United States classifies muscovite mica visually as to quality. Since the methods of quality classification, based on visual appreciation, are subjective while those for size-grading are objective, ISO/TC 56 on Mica decided that a separate ISO Recommendation for visual quality classification should be developed.

In drafting ISO R 67, a number of standards of the U.S. Government, the American Society for Testing Materials, and the National Electrical Manufacturers Association were used, as well as Indian standards.

News Briefs . . .

• FIFTY REPRESENTATIVES of the petroleum industries of nine nations attended the third meeting of the International Organization for Standardization's Technical Committee 28 on Petroleum Products on June 8 and 9 in New York City.

Since this international committee was formed in 1950, it has been responsible for acceptance of one important world-wide standard. This is ISO Recommendation No. 91, Petroleum Measurement Tables, identical to the tables which have been a joint standard in use since 1952 by American and British petroleum industries. This means that American and British companies will not have to operate by one set of tables at home and another abroad.

Several other standards are in preparation.

A vocabulary of terms in English French, and Russian is under consideration by the international committee, as is the question of providing additional volume correction tables.

The delegates approved the setting up of working groups on the following subjects:

1. Determination of kinematic viscosity
2. Determination of specific gravity and density
3. Methods for sampling petroleum products
4. Methods of testing liquefied petroleum gases

Other items on the committee's program of work include standard methods of determining flash point, and the adoption of standard physical constants of hydrocarbons.

The delegates agreed that two American Standards and one Russian standard are to be put forward as draft international proposals:

1. Determination of flash point by Pensky-Martens tester (ASA Z11.7-1958)
2. Determination of tetraethyllead in gasoline (ASA Z11.48-1958)
3. Determination of tetraethyllead in gasoline and ethyl fluid (GOST 63-52)

Most of the work of ISO technical committees is carried on by correspondence, but meetings are held from time to time to discuss knotty questions face-to-face. This is the third meeting of the petroleum committee since it was formed in 1950.

The secretariat, or leadership, of the petroleum committee is held by the United States through the American Standards Association.

Sectional Committee Z11, under the sponsorship of the American Society for Testing Materials, holds the responsibility for U.S. technical participation. Most of the standards under consideration were originally established by ASTM.

W. T. Gunn, director of the Division of Refining of the American Petroleum Institute, is secretary of ISO Technical Committee 28. He is also secretary of ASTM Committee D-2 and assistant secretary of ASA Sectional Committee Z11.

Chairman of the meetings was C. B. Gale of the American Oil Company, a member of the American delegation.

Nations represented at the meetings, in addition to the U.S. and the USSR, were France, Israel, Italy, Japan, the Netherlands, Portugal, and the United Kingdom.

The delegates tentatively agreed that the next meeting of ISO Technical Committee 28 on Petroleum Products will be in Paris in July 1960.

• IS THE UNITED STATES falling behind in capabilities for scientific measurements which are basic to progress in all branches of science and technology? This question is being asked by the Instrument Society of America, which will hold an all-day precision standards workshop September 22 to consider ways of raising American measurement standards. The question has been given urgency by reports that Russian scientists, in the field of high-temperature measurement at least, can far outstrip their U.S. colleagues, the Institute explains.

The workshop will be held during the 14th Annual ISA Instrument-Automation Conference and Exhibit in Chicago. Chairman will be William A. Wildhack, chief of the Office of Basic Instrumentation of the National Bureau of Standards. Mr Wildhack, a former president of the Society, currently is chairman of its research and development committee.

The morning session will focus on the needs, development, and uses of precision standards for physical, dimensional, and electrical measurements. The speakers will be Ralph Bowen, Naval Primary Standards Laboratory, Pensacola, Fla; F. E. Cooper, manager of the Illinois Division of the Sheffield Corporation, and S. C. Richardson, electrical and physical standards engineer, General Electric Company, Schenectady, N.Y.

Dean Charles S. Draper, head of the Aeronautical Engineering Department and director of the Instrumentation Laboratory at the Massachusetts Institute of Technology, will start the afternoon session with a talk on the impact of automation

techniques on precision standards.

He will be followed by A. T. McPherson, associate director of engineering at the National Bureau of Standards, who will undertake to fix responsibility for the development of standards and indicate where they must be used and how they may be enforced.

Lieut. Commander L. O. Whaley, U.S. Navy Bureau of Ships, Washington, will discuss the problem of training personnel to make precision measurements and develop standards.

• AS A GUIDE to U.S. delegates who have wondered how to handle the question of the inch system versus the metric system at meetings of International Organization for Standardization technical committees, the Board of Directors of the American Standards Association has adopted a policy to follow. The policy adopted by the Board was recommended by the Standards Council on the recommendation of the ASA Committee on Procedure.

The Board of Directors and Standards Council first of all advise American delegates to international meetings to keep in mind the following:

"The metric system is not the decimal system. The decimal system is a form of mathematics which is related solely to numbers and it is equally applicable to measures in all systems of units. There exist in the world today two primary systems of measurement—the inch system and the metric system. Neither is likely to replace the other within any foreseeable period and we should accept the fact that they both possess equal status. We should work from this basis."

The policy defined by the ASA Board is given below.

ASA Inch-Metric Policy for International Work

Where dimensions are concerned in international standardization work, the international standard or recommendation, because of the two systems of measurement in the world, must concentrate especially on functional interchangeability between products or components whether measured in inch or metric units. Where this is impracticable and two series are established, the dimensions in inch units and those in metric units must have equal status.

In order to align dimensional standards between inch and metric countries we should approach each particular problem on the basis of the answers to the following questions:

(a) Is it a case where a single series, expressed in one system of measurement only, will be acceptable to all countries?

(b) Is it a case where a single series will be accepted, derived from one system but expressed in both systems by exact translation? In such cases the system from which the series was derived should be stated first and the translation into the other system should be stated second.

(c) Is it a case where interchangeability can be achieved between two series which have not identical dimensions in all respects? In such cases the mode of designation is important to ensure which sizes expressed in inches are interchangeable with which sizes expressed in millimeters.

(d) If it is none of these, then the correct course is to prepare two completely separate parallel series, one in inches and one in millimeters.

Of Interest to Mechanical Engineering Committees —

A suggestion that the Mechanical Standards Board discuss the practice of decimal-inch dimensioning with the idea of possibly recommending its use for standards under its direction has been circulated to the board for consideration at its next meeting. The meeting will probably be held early in the fall.

The suggestion was made by Roy Trowbridge, General Motors Corporation, and seconded by J. Catto, Ford Motor Company.

In making the proposal, Mr Trowbridge explained:

"The basic increment of the decimal-inch system which is being widely adopted throughout this country in the dimensioning of engineering drawings is a fiftieth of an inch, expressed as a two-place decimal (.02).

"Engineering dimensional requirements are expressed in even increments of .02 (for example: .04, .06,

The U.S. national committee on ISO Technical Committee 61, Plastics, met at Pittsburgh May 6 to plan for a meeting of TC 61 at Munich, Germany, October 26-31. The American Standards Association, as U.S. member of the International Organization for Standardization, holds the secretariat. Plans have been made for 12 U.S. delegates to attend the Munich meeting. A few of the members of the U.S. national committee who attended the planning meeting are shown in this picture (around the table clockwise): R. Burns, National Research Council; K. A. Kaufmann, Amoco Chemicals; P. E. Willard, Food Machinery Corporation; N. A. Skow, Synthane Corporation; W. E. Brown, Dow Chemical Company, chairman; F. C. Frost, American Standards Assn.

news briefs . . . continued

.08, 1.06, 2.00, etc) which take care of the majority of linear dimensions. Where necessary, design requirements may be expressed in three, four, five or more decimal places (for example, .002, .0005, .00008, etc)."

Mr Trowbridge declared that GMC has converted almost completely to decimalization of inch dimensional measure, as have other automotive companies and the aircraft industry. It was pointed out that American Standard Y14.5, drafting practice on dimensioning, recognizes the decimalization of the inch and that the SAE Aeronautical and Engineering Drawing Standard, about to be published, has been completely decimalized with the exception of a paragraph on fractions.

• *Excerpt from "Standards for World Trade," BSI News, June 1959, published by the British Standards Institution:*

". . . It is encouraging to report some additional publicity for British Standards at two important overseas exhibitions. Last month, at the National Industrial Production Show in Toronto, space was kindly afforded to us by the Birmingham Engineering Centre for a BSI panel which explained to Canadian buyers visiting the large display of British engineering equipment the advantages to them of purchasing goods complying with British Standards and what is done to see that British goods comply with Canadian safety requirements. This month, at the British Trade Fair in Lisbon, copies specially translated into Portuguese of the BSI list of iron and steel standards were made available to potential buyers visiting the British Iron and Steel Federation's stand at the show.

"British firms can powerfully reinforce efforts such as these through their own publicity activities and by making the appropriate standards known and available to their overseas customers. In export trade no less than at home it pays to say that a product is manufactured in accordance with British Standards. Such information is an added selling point and it is there for industry to use—in sales correspondence, in advertisements, and on exhibition stands."

• A NEW STANDARD for the installation and use of combustion engines and gas turbines has been published by the National Fire Protection Association.

Developed by the NFPA Committee on Internal Combustion Engines, of which Elmer O. Mattocks of the American Petroleum Institute, New York, is chairman, and J. A. McGucklin of the Philadelphia Electric Company is secretary, it was adopted at the Association's 1959 annual meeting. It replaces former standards which NFPA began developing as early as 1905.

The new standard covers both internal and external combustion engines using gasoline and other fuels, also gas turbines which are coming into increasing use. This type of equipment, if properly installed, has a very good fire record, but involves serious fire hazards when proper installation practices are not followed.

Copies of the new standard (NFPA No. 37, 16 pages, 50c per copy) are available from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

• "IN RECOGNITION of his many significant contributions to the cause of safety, and of his dedicated service in the field of accident prevention," the American Museum of Safety has awarded The Arthur Williams Memorial Medal to John A. Dickinson. Mr Dickinson is chief of the Codes and Specifications Section, Building Technology Division, National Bureau of Standards, and has been in charge of the safety standards work at the Bureau for many years. He has participated in the formulation of many safety codes and standards developed under the procedure of the American Standards Association and has made major contributions to the safety codes for elevators and escalators, manlifts, logging and sawmills, power presses, protection against lightning, and electric lines. He has also served as a safety consultant for the Federal Government and has contributed to accident prevention at military bases, federal establishments, and at national parks and monuments. His work on safety research has encompassed elevator equipment, handling of ammonium nitrate, implosion hazards of cathode ray tubes, and lightning protection.

The American Museum of Safety is the oldest continuing national safety organization in the country. It was responsible for initiating many of the safety activities now carried on by other organizations, including the annual Greater New York Safety Conference, now an activity of the Greater New York Safety Council. Now it sponsors fellowships for study and research in areas related to safety and health and makes awards for outstanding service in safety.

GAILLARD SEMINARS

Ten conferees attended the Gaillard Seminar on Industrial Standardization held in New York City, June 22 through 26, 1959. Eight men represented companies in the United States and Canada, and two were delegates of a Swedish trade association, as shown by the list below. Companies marked by an asterisk were represented also at one or more previous Gaillard Seminars.

*AMP Incorporated
Brown Boveri (Canada) Ltd
Champion Paper & Fibre Co
Hughes Aircraft Co
*International Business Machines Corp
Keasbey & Mattison Co
Northronics, a Division of Northrop Aircraft, Inc
*Remington Rand Univac, Division of Sperry Rand Corp
Swedish Federation of Metalworking Industries

The next Gaillard Seminar for general attendance will be held in the Engineering Societies Building, New York City, January 25 through 29, 1960. If in the meantime any company wishes to have a seminar held exclusively for attendance by its own personnel, and at a place and time of its own choice, it may make arrangements for such a "Company Standards Seminar" by writing to Dr John Gaillard, 135 Old Palisade Road, Fort Lee, New Jersey.

AMERICAN STANDARDS

Just Published

If your company is a member of the American Standards Association, you are entitled to receive membership service copies of these newly published American Standards. Find out who your ASA contact is in your company. Order your American Standards through him. He will make sure your company receives the membership service to which it is entitled.

BUILDING AND CONSTRUCTION

Billet-Steel Bars for Concrete Reinforcement, Tentative Specifications for, ASTM A 15-58T; ASA A50.1-1959 (Revision of ASTM A 15-57T; ASA A50.1-1958) $0.30

Cold-Drawn Steel Wire for Concrete Reinforcement, Specifications for, ASTM A 82-58; ASA A50.3-1959 (Revision of ASTM A 82-34; ASA A50.3-1936) $0.30

Sponsor: American Society for Testing Materials

Ignition Loss and Active Calcium Oxide in Magnesium Oxide for Use in Magnesium Oxychloride Cements, Method of Test for, ASTM C 247-57; ASA A88.16-1959 (Revision of ASTM C 247-52; ASA A88.16-1953) $0.30

Sponsor: American Society for Testing Materials; National Bureau of Standards

Building Brick (Solid Masonry Units Made from Clay or Shale), Specification for, ASTM C 62-58; ASA A98.1-1959 (Revision of ASTM C 62-57; ASA A98.1-1958) $0.30

Sponsor: American Society for Testing Materials

Sewer Brick (Made from Clay or Shale), Specifications for, ASTM C 32-58; ASA A100.1-1959 (Revision of ASTM C 32-50; ASA A100.1-1954) $0.30

Sponsor: American Society for Testing Materials

DRAWINGS, SYMBOLS AND ABBREVIATIONS

Illustrations for Publication and Projection, Y15.1-1959 [Revision of Z15.1-1932 (R1947) and Z15.3-1943 (R1947)] $2.00

Sponsor: American Society of Mechanical Engineers

ELECTRIC AND ELECTRONIC

Soft Rectangular and Square Bare Copper Wire for Electrical Conductors, Specifications for, ASTM B 48-58; ASA C7.9-1959 (Revision of ASTM B 48-57; ASA C7.9-1958) $0.30

Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members for Electrical Conductors, Specifications for, ASTM B 172-58; ASA C7.12-1959 (Revision of ASTM B 172-55; ASA C7.12-1953) $0.30

Rope-Lay-Stranded Copper Conductors Having Concentric-Lay-Stranded Members for Electrical Conductors, Specifications for, ASTM B 173-58; ASA C7.13-1959 (Revision of ASTM B 173-55; ASA C7.13-1953) $0.30

Bunch-Stranded Copper Conductors for Electrical Conductors, Specifications for, ASTM B 174-58; ASA C7.14-1959 (Revision of ASTM B 174-53T; ASA C7.14-1953) $0.30

Concentric-Lay-Stranded Aluminum Conductors, Hard-Drawn Three-Quarters Hard-Drawn and Half-Hard-Drawn, Specifications for, ASTM B 231-58; ASA C7.21-1959 (Revision of ASTM B 231-57; ASA C7.21-1958) $0.30

Concentric-Lay-Stranded Aluminum Conductors, Steel-Reinforced (ACSR), Tentative Specifications for, ASTM B 232-58; ASA C7.22-1959 (Revision of ASTM B 232-57T; ASA C7.22-1958) $0.30

Resistivity of Electrical Conductor Materials, Method of Test for, ASTM B 193-58; ASA C7.24-1959 (Revision of ASTM B 193-57; ASA C7.24-1958) $0.30

Copper Bus Bar, Rod and Shapes, Specifications for, ASTM B 187-58; ASA C7.25-1959 (Revision of ASTM B 187-55; ASA C7.25-1957) $0.30

Seamless Copper Bus Pipe and Tube, Specifications for, ASTM B 188-58; ASA C7.26-1959 (Revision of ASTM B 188-56; ASA C7.26-1957) $0.30

Standard Weight Zinc-Coated (Galvanized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR), Specifications for, ASTM B 245-58; ASA C7.28-1959 (Revision of ASTM B 245-55; ASA C7.28-1956) $0.30

Zinc-Coated (Galvanized) Steel Core Wire (With Coatings Heavier Than Standard Weight) for Aluminum Conductors, Steel Reinforced (ACSR), Specifications for, ASTM B 261-58; ASA C7.34-1959 (Revision of ASTM B 261-55; ASA C7.34-1956) $0.30

Sponsor: American Society for Testing Materials

Schedules of Preferred Ratings for Power Circuit Breakers, C37.6-1959 (Revision of C37.6-1957) $0.50

Sponsor: Electrical Standards Board

Solid Dielectric Transmission Lines, C83.21-1958 $1.20

Sponsor: Electronic Industries Association

Shockproof Cable Terminals and Receptacles for Use on X-ray Equipment, Specification for, C86.1-1958 $0.35

Establishes uniform dimensions and minimum performance requirements in order to obtain interchangeability of cable terminals and receptacles up to a maximum voltage rating of 75 peak kv (rectified to ground).

Sponsors: National Electrical Manufacturers Association; General Services Administration

Magnetic Recording Instruments for the Home — Wire Size, Speed, Spools, Z57.4-1959 $0.25

Sponsor: Institute of Radio Engineers

MECHANICAL

Carbon and Alloy-Steel Nuts for Bolts for High-Pressure and High-Temperature Service, Tentative Specifications for, ASTM A 194-58T; ASA G38.1-1959 (Revision of ASTM A 194-56T; ASA G38.1-1957) $0.30

Sponsor: American Society for Testing Materials

METALLURGY

Steel for Bridges and Buildings, Tentative Specifications for, ASTM A 7-58T; ASA G24.1-1959 (Revision of ASTM A 7-56T; ASA G24.1-1957) $0.50

Sponsor: American Society for Testing Materials

Welded Steel Wire Fabric for Concrete Reinforcement, Tentative Specifications for, ASTM A 185-58T; ASA G45.1-1959 (Revision of ASTM A 185-56T; ASA G45.1-1957) $0.30

Sponsor: American Society for Testing Materials

PHOTOGRAPHY

Microfilm Readers for 16mm and 35mm Film on Reels, Specifications for, PH5.1-1959 (Revision of Z38.7.9-1946) $0.35

16mm and 35mm Microfilms on Reels or in Strips, Specifications for, PH5.3-1958 (Revision of Z38.7.8-1947) $0.50

Sponsor: American Library Association

PIPE AND FITTINGS

Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service, Tentative Specifications for, ASTM A 182-58T; ASA G37.1-1959 (Revision of ASTM A 182-57T; ASA G37.1-1958) $0.30

Sponsor: American Society for Testing Materials

Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for General Service, Tentative Specifications for, ASTM A 181-58T; ASA G46.1-1959 (Revision of ASTM A 181-57T; ASA G46.1-1958) $0.30

Sponsor: American Society for Testing Materials

Seamless Copper Water Tube, Specifications for, ASTM B 88-58; ASA H23.1-1959 (Revision of ASTM B 88-55; ASA H23.1-1956) $0.50

Sponsor: American Society for Testing Materials

Seamless Copper Pipe, Standard Sizes, Specifications for, ASTM B 42-58; ASA H26.1-1959 (Revision of ASTM B 42-57; ASA H26.1-1958) $0.50

Sponsor: American Society for Testing Materials

WOOD AND WOOD PRESERVATIVES

Round Timber Piles, Specifications for, ASTM D 25-58; ASA O6.1-1959 (Revision of ASTM D 25-55; ASA O6.1-1958) $0.30

Sponsor: American Society for Testing Materials

AMERICAN STANDARDS

Under Way

LEGEND Standards Council — *Approval by Standards Council is final approval as American Standard; usually requires 4 weeks.* Board of Review — *Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks.* Standards Board — *Approves standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.*

Status as of July 20, 1959

AUTOMOTIVE

In Standards Board

Specific Gravity of Concentrated Engine Antifreezes by the Hydrometer, Method of Test for, ASTM D 1122-58; ASA D14.3- (Revision of ASTM D 1122-53; ASA D14.3-1955)

Sponsor: American Society for Testing Materials

BUILDING AND CONSTRUCTION

In Standards Board

Fireclay and High-Alumina Refractory Brick, Classification of, ASTM C 27-58T; ASA A111.5- (Revision of ASTM C 27-41; ASA A111.5-1956)

Basic Procedure in Panel Spalling Test for Refractory Brick, Method for, ASTM C 38-58; ASA A111.6- (Revision of ASTM C 38-52; ASA A111.6-1955)

Sponsor: American Society for Testing Materials

Areas in Hospitals and Related Facilities, Method of Determining, Z65.4-

Sponsors: National Association of Building Owners and Managers; Office of Education, Dept. of Health, Education and Welfare

CHEMICAL

In Standards Board

Turpentine, Methods of Sampling and Testing, ASTM D 233-58; ASA K33.1- (Revision of ASTM D 233-36; ASA K33-1937)

Sponsor: American Society for Testing Materials

CONSUMER GOODS

In Standards Board

Alkaline Detergents, Methods of Sampling and Chemical Analysis of, ASTM D 501-58; ASA K60.21- (Revision of ASTM D 501-57; ASA K60.21-1958)

Sponsor: American Society for Testing Materials

DRAWINGS, SYMBOLS AND ABBREVIATIONS

In Standards Board

Letter Symbols for Feedback Control Systems, Y10.13-

Sponsor: American Society of Mechanical Engineers

Graphical Symbols for Welding, Y32.3- [Revision of Z32.2.1-1949 (R1953)]

Sponsors: American Society of Mechanical Engineers; American Institute of Electrical Engineers

ELECTRIC AND ELECTRONIC

American Standard Approved

Measurement of Direct Interelectrode Capacitance, C60.6-1959 (Revision of C60.6-1952)

Sponsor: Joint Electron Devices Engineering Council

In Board of Review

Definitions of Electrical Terms: Group 45 — Electromechanical Devices, C42.45- (Partial revision of C42-1941)

Sponsor: American Institute of Electrical Engineers

Rigid Steel Conduit, Zinc Coated, Specification for, C80.1- (Revision of C80.1-1953)

Rigid Steel Conduit, Enameled, Specification for, C80.2- (Revision of C80.2-1953)

Electrical Metallic Tubing, Zinc Coated, Specification for, C80.3- [Revision of C80.3-1950 (R 1953)]

Sponsors: American Iron and Steel Institute; National Electrical Manufacturers Association

In Standards Board

Distribution, Power, and Regulating Transformers and Reactors Other Than Current-Limiting Reactors, Requirements, Terminology, and Test Code for; Section 20—Overhead-Type Distribution Transformers, 67,000 Volts and Below, 500 kva and Smaller, C57.12.20- (Revision of C57.12.20-1958)

Sponsor: Electrical Standards Board

Withdrawal Being Considered

Power-Operated Radio Receiving Appliances, Safety Standard for, C65.1-1954

Sponsor: Underwriters' Laboratories

GAS-BURNING APPLIANCES

American Standards Approved

Domestic Gas Ranges, Volume I, Free Standing Units, Z21.1.1-1959 (Revision of Z21.1-1956, Z21.1a-1957, Z21.1b-1958)

Domestic Gas Ranges, Volume II, Built-In Domestic Cooking Units, Z21.1-2-1959 (Revision of Z21.1.2-1956, Z21.2a-1957, Z21.1.2b-1958)

Hotel and Restaurant Gas Ranges and Unit Broilers, Z21.3b-1959 (Addenda to Z21.3-1956, Z21.3a-1957)

Domestic Gas Clothes Dryers, Z21.5-1959 (Revision of Z21.5-1956, Z21.5a-1957, Z21.5b-1958)

Domestic Gas-Fired Incinerators, Z21.6b-1959 (Addenda to Z21.6-1957, Z21.6a-1958)

Hot Plates and Laundry Stoves, Z21.9-1959 (Revision of Z21.9-1948, Z21.9a-1949)

Gas Water Heaters, Volume I, Z21.10-1-1959 (Revision of Z21.10.1-1956, Z21.10.1a-1957, Z21.10.1b-1958)

Gas Water Heaters, Volume II, Side-Arm Type Water Heaters, Z21.10.2-1959 (Revision of Z21.10.2-1956, Z21.10.2a-1957, Z21.10.2b-1958)

Gas-Fired Room Heaters, Z21.11-1959 (Revision of Z21.11-1956, Z21.11a-1957, Z21.11b-1958)

Central Heating Gas Appliances, Volume I, Steam and Hot Water Boilers, Z21.13.1a-1959 (Addenda to Z21.13.1-1958)

Central Heating Gas Appliances, Volume II, Gravity and Forced Air Central Furnaces, Z21.13.2a-1959 (Addenda to Z21.13.2-1958)

Central Heating Gas Appliances, Volume III, Gravity and Fan Type Floor Furnaces, Z21.13.3-1959 (Revision of Z21.13.3-1956, Z21.13.3a-1957, Z21.13b-1958)

Central Heating Gas Appliances, Volume IV, Gravity and Fan Type Vented Recessed Heaters, Z21.13.4a-1959 (Addenda to Z21.13.4-1958)

Manually Operated Gas Valves, Z21.15a-1959 (Addenda to Z21.15-1958)

Gas Unit Heaters, Z21.16b-1959 (Addenda to Z21.16-1957, Z21.16a-1958)

Domestic Gas Conversion Burners, Z21.17a-1959 (Addenda to Z21.17-1958)

Metal Connectors for Gas Appliances, Z21.24b-1959 (Addenda to Z21.24-1955, Z21.24a-1956)

Hotel and Restaurant Gas Deep Fat Fryers, Z21.27-1959 (Revision of Z21.27-1955, Z21.27a-1956, Z21.27b-1957)

Portable Gas Baking and Roasting Ovens, Z21.28b-1959 (Addenda to Z21.28-1956, Z21.28a-1957)

Installation of Gas Piping and Gas Appliances, Z21.30-1959 (Revision of Z21.30-1954)

Gas Counter Appliances, Z21.31b-1959 (Addenda to Z21.31-1956, Z21.31a-1957)

Gas-Fired Duct Furnaces, Z21.34a-1959 (Addenda Z21.34-1958)

Gas-Fired Absorption Summer Air Conditioning Appliances, Z21.40-1959)

Sponsor: American Gas Association

MATERIALS HANDLING

In Standards Board

Pallet Sizes, MH1.1-

Sponsors: American Society of Mechanical Engineers; Society of Packaging and Handling Engineers

MECHANICAL

American Standard Approved

Taps—Cut and Ground Threads, B5.4-1959 (Revision of B5.4-1948)

Sponsors: American Society of Mechanical Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Tool Engineers

In Standards Board

Drill Drivers, Split-Sleeve, Collet Type, B5.27- (Revision of B5.27-1951)

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

Throw-Away Carbide Inserts, Specifications for, B80.1-

Sponsor: Cemented Carbide Producers Association

Reaffirmation Approved

Chucks and Chuck Jaws, B5.8-1954 (R1959)

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

METALLIC COATINGS

In Standards Board

Electrodeposited Coatings of Nickel and Chromium on Steel, Specifications for, ASTM A 166-58T; ASA G53.3-(Revision of ASTM A 166-55T; ASA G53.3-1956)

Electrodeposited Coatings of Nickel and Chromium on Copper and Copper-Base Alloys, Specifications for, ASTM B 141-58; ASA G53.4- (Revision of ASTM B 141-55; ASA G53.4-1956)

Electrodeposited Coatings of Nickel and Chromium on Zinc and Zinc-Base Alloys, Specifications for, ASTM B 142-58; ASA G53.5- (Revision of ASTM B 142-55; ASA G53.5-1956)

Sponsor: American Society for Testing Materials

METALLURGY

In Standards Board

Zinc-Coated (Galvanized) Iron or Steel Sheets, Coils, and Cut Lengths, Specifications for, ASTM A 93-58T; ASA G8.2- (Revision of ASTM A 93-55T; ASA G8.2-1956)

Sponsor: American Society for Testing Materials

Slab Zinc (Spelter), Specifications for, ASTM B 6-58; ASA H24.1- (Revision of ASTM B 6-49; ASA H24.1-1949)

Sponsor: American Society for Testing Materials

MISCELLANEOUS

In Standards Board

ASTM Thermometers, Specifications for, ASTM E 1-58; ASA Z71.1- (Revision of ASTM E 1-57; ASA Z71.1-1958)

Sponsor: American Society for Testing Materials

PHOTOGRAPHY

American Standards Approved

Dimensional Change Characteristics of Photographic Films and Papers, Methods for Determining, PH1.32-1959

Sponsor: Photographic Standards Board

Back Window Location for Roll Film Cameras, PH3.1-1959 (Revision of PH3.1-1952)

Method for Determining Performance Characteristics of Front Shutters Used in Still Cameras, PH3.4-1959 (Revision of PH3.4-1952)

Attachment Threads for Lens Accessories, Specifications for, PH3.12-1959 (Revision of PH3.12-1953)

Exposure-Time Markings for Shutters Used in Still Cameras, PH3.32-1959 (Revision of PH3.3-1952 and PH3.5-1952)

Aperture Markings for Still Camera Lens, PH3.33-1959 (Revision of Z38.4.7-1950)

Projectors for Opaque Materials, Specifications for, PH3.34-1959 (Revision of Z38.7.4-1944)

Sponsor: Photographic Standards Board

American Standards Withdrawn

Flash Synchronizing Equipment, Bipost Type, Z38.4.26-1951

Flash Synchronizing Equipment, Bayonet Type, Z38.4.27-1951

Sponsor: Photographic Standards Board

PIPE AND FITTINGS

In Board of Review

Seamless Carbon-Steel Pipe for High-Temperature Service, Specifications for, ASTM A 106-58T; ASA B36.3-(Revision of ASTM A 139-55; ASA B36.3-1956)

Electric-Fusion (Arc) Welded Steel Pipe (Sizes 4 in. and Over), Specifications for, ASTM A 139-58T; ASA B36.9-(Revision of ASTM A 139-55; ASA B36.9-1956)

Seamless Steel Boiler Tubes, Specifications for, ASTM A 83-58T; ASA B36.12-(Revision of ASTM A 83-56T; ASA B36.12-1958)

Electric-Resistance-Welded Steel and Open-Hearth Iron Boiler Tubes, Specifications for, ASTM A 178-58T; ASA B36.13- (Revision of ASTM A 178-56T; ASA B36.13-1958)

Medium-Carbon Seamless Steel Boiler and Superheater Tubes, Specifications for, ASTM A 210-58T; ASA B36.15-(Revision of ASTM A 210-55T; ASA B36.15-1956)

Welded and Seamless Open-Hearth Iron Pipe, Specifications for, ASTM A 253-58; ASA B36.23- (Revision of ASTM A 253-55T; ASA B36.23-1956)

Seamless Low-Carbon and Carbon-Molybdenum Steel Still Tubes for Refinery Service, Specifications for, ASTM A 161-58T; ASA B36.27- (Revision of ASTM A 161-55T; ASA B36.27-1956)

Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes, Specifications for, ASTM A 179-58T; ASA B36.28- (Revision of ASTM A 179-56T; ASA B36.28-1958)

Seamless Cold-Drawn Intermediate Steel Heat-Exchanger and Condenser Tubes; Specifications for, ASTM A 199-58T; ASA B36.29- (Revision of ASTM A 199-56T; ASA B36.29-1958)

Seamless Intermediate Alloy-Steel Still Tubes for Refinery Service, Specifications for, ASTM A 200-58T; ASA B36.30- (Revision of ASTM A 200-55T; ASA B36.30-1956)

Seamless Carbon-Molybdenum Alloy-Steel Boiler and Superheater Tubes, Specifications for, ASTM A 209-58T; ASA B36.31- (Revision of ASTM A 209-55T; ASA B36.31- 1956)

Electric-Resistance-Welded Steel Heat-Exchanger and Condenser Tubes, Specifications for, ASTM A 214-58T; ASA B36.32- (Revision of ASTM A 214-56T; ASA B36.32-1958)

Electric-Resistance-Welded Carbon-Molybdenum Alloy-Steel Boiler and Superheater Tubes, Specifications for, ASTM A 250-58T; ASA B36.34- (Revision of ASTM A 250-55T; ASA B36.34-1956)

Seamless and Welded Steel Tubes for Low-Temperature Service, Specifications for, ASTM A 333-58T; ASA B36.40- (Revision of ASTM A 333-55T; ASA B36.40-1956)

Seamless and Welded Steel Tubes for Low-Temperature Service, Specifications for, ASTM A 334-58T; ASA B36.41- (Revision of ASTM A 334-55T; ASA B36.41-1956)

In Standards Board

Nickel Seamless Pipe and Tube, Specification for, ASTM B 161-58T; ASA H34.1- (Revision of ASTM B 161-49T; ASA H34.1-1955)

Nickel-Copper Alloy Seamless Pipe and Tube, Specifications for, ASTM B 165-58T; ASA H34.2- (Revision of ASTM B 165-49T; ASA H34.2-1955)

Nickel-Chromium-Iron Alloy Seamless Pipe and Tube, Specification for, ASTM B 167-58T; ASA H34.3-(Revision of ASTM B 167-49T; ASA H34.3-1955)

Sponsor: American Society for Testing Materials

RUBBER

In Standards Board

Sample Preparation for Physical Testing of Rubber Products, Methods of, ASTM D 15-58T; ASA J1.1- (Revision of ASTM D 15-57T; ASA J1.1-1958)

Sponsor: American Society for Testing Materials

SAFETY

In Standards Board

Safety Code for Powered Industrial Trucks, B56.1- (Revision of B56.1-1955)

Sponsor: American Society of Mechanical Engineers

Reaffirmation Approved

Recording and Measuring Work Injury Experience, Method of Z16.1-1954 (R1959)

Sponsors: National Safety Council; Association of Casualty and Surety Companies, Accident Prevention Dept

NEWS ABOUT AMERICAN STANDARDS PROJECTS

Mobile Homes and Trailers—

Requested by: Mobile Homes Manufacturers Association; Trailer Coach Association (West Coast)

Representatives of 24 national organizations recommended on July 7 that the American Standards Association initiate a project to develop standards for mobile homes and travel trailers. The action was taken at a general conference called by the American Standards Association at the request of the Mobile Homes Manufacturers Association and the Trailer Coach Association (West Coast).

The purpose of the standard is to provide a uniform national code which will serve the needs of the makers of the mobile homes, the communities which must accommodate these units, and the owners of mobile homes.

The lack of national standards for mobile homes may find the mobile home builder and owner faced with varying codes or installation requirements throughout the country, it was explained. One example cited was the inconvenience and cost which an owner could encounter in using his gas stove where different inlet connections and stove components may be necessary to meet local requirements. American Standards are often used as a guide by regulatory agencies, as in the case of such American Standards as the National Plumbing Code and the National Electrical Code. With an American Standard as a nation-wide guide for mobile home codes, manufacturers could build their units to conform to this standard of national acceptance.

The Mobile Homes Manufacturers Association and the Trailer Coach Association, represented by Earle Swett, President of MHMA, presented to the conference a standard for electrical, heating, and plumbing equipment for consideration under the general acceptance method of the ASA.

A lack of consensus at the conference for approval of the MHMA standards, however, led to the recommendation that the work be handled by a sectional committee to be set up under regular ASA procedures. Such a committee having representation from all parties interested would be responsible for the development of standards relating to construction and equipment of mobile homes and travel trailers. The conference held at the ASA office in New York recommended the project be jointly sponsored by the Mobile Homes Manufacturers Association and the Trailer Coach Association.

The conference recommendations are being referred to the ASA Construction Standards Board for approval. The chairman of the board is J. Lloyd Barron of National Biscuit Company who was chairman of the July 7 conference.

Raceways for Electric Wiring Systems, C80—

Sponsors: American Iron and Steel Institute; National Electrical Manufacturers Association

The scope of this project has been changed to eliminate reference to steel and thus enlarge the work of the committee to include all metallic materials. The new scope covers: "Development of standards for rigid metal conduit and electrical metallic tubing raceway systems, and components for such systems, such as elbows, couplings, connectors, bushings, and locknuts."

The committee is now working on standards for aluminum conduit, having just revised the American Standards on conduit—Rigid Steel Conduit, Zinc Coated, C80.1-1953; Rigid Steel Conduit, Enameled, C80.2-1953; and Electrical Metallic Tubing, Zinc Coated, C80.3-1950.

Code for Electricity Meters, C12—

Sponsors: Electric Light and Power Group; National Bureau of Standards

Arthur T. Higgins, Edison Electric Institute, recently named secretary of Committee C12, is a graduate

Arthur T. Higgins

in electrical engineering from Massachusetts Institute of Technology. Following graduation in 1940, he served in the U. S. Navy. He was first assigned as engineer officer to the USS Hopkins, a destroyer minesweeper with the Pacific Fleet, in which Captain G. F. Hussey, Jr [now Vice Admiral, USN (Ret), managing director of the American Standards Association] was squadron commander. In 1942 Mr Higgins took flight training in Lakehurst and from then until 1947 served with aviation units. In 1948 he became associated with the Pacific Gas and Electric Company as an electrical engineer. In 1952 he joined the staff of the Edison Electric Institute as an engineer. He is secretary and staff assistant to the EEI Electrical System and Equipment Committee, the Meter and Service Committee, and the Accident Prevention Committee.

Plastic Pipe, B72—

Sponsors: Society of the Plastics Industry; American Society of Mechanical Engineers; American Society for Testing Materials

Recently elected vice-chairman of the committee is George H. Reed, manager, Chemical Equipment Sales, American Hard Rubber Company. A graduate of Pratt Institute of Chemical Engineering, Mr Reed holds the chairmanship of ASTM-SPI Subcommittee 17 on Plastic Pipe and Fittings of ASTM Committee D-20. He is also chairman of the PVC (polyvinyl chloride) Committee, Thermoplastics Division, of the Society of the Plastics Industry. He is a member of the American Ordnance Committee.

Resistance Welding Machines, C88—

Sponsor: Resistance Welder Manufacturers' Association

J. Paul Thorne, named chairman of the committee early this year, has spent the last 12 years on research, test, and electrical design of all types of resistance welding machines. He has been chief electrical engineer of the National Electric Welding Machines Company, Bay City, Michigan, since 1954. A member of the American Institute of Electrical Engineers and associate member of the American Welding Society, he is the Society's Saginaw Valley Section chairman. He also holds the chairmanship of the technical committee of the Resistance Welder Manufacturers' Association.

Commenting on Committee C88, Mr Thorne reports: "Three subcommittees have been organized: Resistance Welding Machines, J. F. Deffenbaugh, Federal Machine and Welder Company, Warren, Ohio, *chairman;* Resistance Welding Controls, R. C. Mierendorf, Square D Company, Milwaukee, Wisc, *chairman;* Resistance Welding Electrodes, J. C. Cox, S-M-S Corporation, Detroit, Mich, *chairman*. Each of these subcommittees has 10 to 15 members who are all experts in their subcommittee's particular category. J. J. Riley, Taylor-Winfield Corp, Warren, Ohio, serves as vice-chairman for Committee C88."

J. Paul Thorne

Classification and Designation of Surface Qualities, B46—

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Joseph Manuele, director of Headquarters Quality Control, Westinghouse Electric Corporation, recently named chairman of Committee B46, has worked in the field of inspection and quality control since joining Westinghouse in 1925. He took a leading part in organization of the American Society for Quality Control.

Joseph Manuele

Mr Manuele is known for his contributions to handbooks on production, tool engineering, and industrial engineering. He has also presented numerous papers before professional societies and has written well over 100 articles, many of which have been translated into Spanish, Portuguese, and Japanese.

Dental Radiographic (X-ray) Film, PH5—

Sponsor: American Dental Association

Alphonse F. Forziati has been named secretary of this recently organized committee. George F. Paffenbarger is chairman of PH6 (see THE MAG OF STDS, March 1959, page 67).

Alphonse F. Forziati

Dr Forziati attended Harvard University where he was awarded the degrees of B.A. (cum laude), M.A., and Ph.D. He served as graduate instructor in physical chemistry at Harvard and Radcliffe Colleges and was a research fellow at Harvard. In 1941 he was appointed research associate representing the American Petroleum Institute at the National Bureau of Standards, serving until 1949 when he accepted his present position as research associate in the Research Division of the American Dental Association at the NBS. Dr Forziati is author and coauthor of 24 publications and is active in the work of many professional societies.

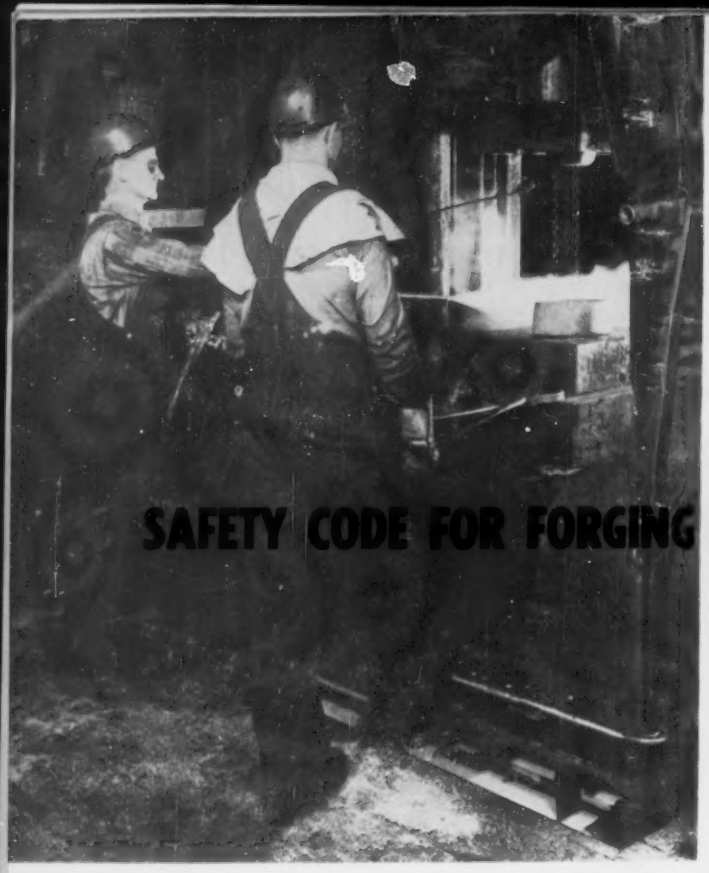
Pipe Threads, B2—

Sponsors: American Gas Association; American Society of Mechanical Engineers

Of the work of Sectional Committee B2, I. H. Fullmer, recently named chairman of the committee (see "This Month's Standards Personality" MAG OF STDS, July 1959, page 195), says:

"Paul G. Schulz of the Crane Company, former chairman of the committee,[1] led the committee in development of a revision of American Standard B2.1-1945, Pipe Threads. Under his chairmanship the committee practically completed the revision. The standard was divided into two. The first, Pipe Threads (except Dryseal), B2.1, is in the last two stages of approval and promulgation. The second, Dryseal Pipe Threads, B2.2, has been completed in draft form and will soon be submitted to letter ballot of the sectional committee."

[1]Mr Schulz died in November 1958 and Mr Fullmer succeeded him as chairman.



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